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SELLING THE OWNER THE SECOND TIME.

ONE of the undesirable things about the plumbing and heating business to the minds of many in the trade, is the necessity of finding a new customer for every job that is sold. Many consider that when a first class plumbing and heating job is installed, the business from that customer is necessarily at an end, at least for many years, except for occasional small repair work.

The world is progressing—men now require and will buy improved devices that add to their comfort and convenience. The first job done for a customer should only be the entering wedge—it is much easier to sell him the second time after the ice is broken. But what shall we sell him?

The next three or four months is the time to push the sale of these extras. One man should have a heat controller for his furnace or boiler. It should be easy to sell him right now. Go to him—he may be waiting for you.

A heat generator for the hot water system, if not already there, should be easily sold. A water filter is needed by many owners—tell them what you can supply.

The laundry in many cases has never been fitted up. Suggest laundry trays, a motor-driven washing machine, an electrically driven pneumatic water system for the soft water.

Then there is the drinking fountain—possibly connected with the filter. Many shower baths could be added to the bathroom equipments of your customers, as well as foot or sitz baths.

A hot water heater, gas, coal or wood, is desired by many. The garbage burner is becoming a necessity in congested districts. The vacuum cleaner should be called to the attention of householders—there is money in its sale.

The automobile and gas engine owner needs an underground gasoline storage outfit—you can sell it.

A satisfied customer should become a permanent customer—sell him again—and he will be better satisfied—and the added profit is yours.

Statler Hotel Plumbing and Refrigerating System

The New Hotel Statler at Cleveland, Ohio, Stands as an Example of What Can be Accomplished by Modern Sanitary Equipment and Refrigerating Machinery

ON last Saturday evening, at Cleveland, there was opened to the public, amid the strains of orchestral music and the clink of crystal and Haviland, a new hotel, which in many respects is the most modern in the whole United States.

This is the Hotel Statler—the name stands for what has always meant progress in hotel building and management. The public, who were privileged to see for themselves, have with one accord placed their stamp of approval on this new creation.

To the master plumber, and the journeyman as well, this new building will offer many suggestions of the best in hotel sanitation. Conveniences that are real—little kinks in management that please the guests, are to be seen on every hand.

One thing, for instance, that pleases most women is the placing of the lavatory in each room 32½ inches high, instead of the usual 30. While not necessarily an unusual departure from custom, it is a case of pleasing the guests.

The Lavatories a Delight.

Combination fixtures for the lavatory, with china escutcheons on the valves, are most noticeable. The waste handle matching the valves in design means ease of operation with either soapy or dry hands. These lavatories are all tiled into the walls—the ones in the better rooms are of the pedestal type, although in the cheaper rooms those with legs are used. All lavatories are specially designed, to harmonize with the baths and other fixtures.

A recessed space in the wall above the lavatory furnishes a convenient shelf for toilet articles, comb and brush and other things. Above this space is a mirror. You wouldn't think that this was really, like the door in "Alice in Wonderland," an entrance to a hidden chamber, but, indeed, it is. By lifting out the mirror one may climb into the pipe shaft, make such repairs as necessary and climb out again without much trouble.

Showing Design of Combination Fixtures.

Above the lavatory, projecting from the tile, is the drinking water faucet, from which one may secure a drink of ice water, constantly in circulation.

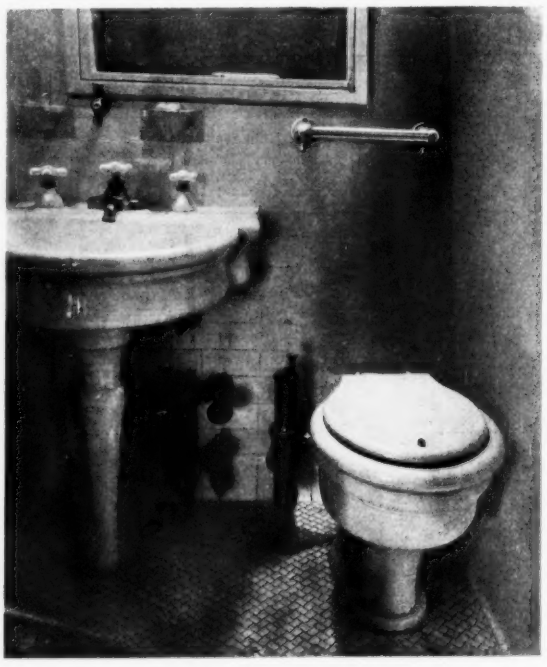
A most noticeable omission is that of the trap beneath the lavatory. At first glance it would seem that the plumbing contractor had taken the chance of setting these lavatories without traps. But the trap is really placed in the pipe shaft behind the wall, and is also gotten at by use of the "manhole" regularly closed by the mirror.

The space that is saved in this way beneath each lavatory is utilized for the radiator. This is so uncommon as to arouse interest at once, and yet is an excellent way to utilize space that is otherwise really wasted.

Bathrooms Have Had Special Care.

The bathroom, of course, is the thing that interests the plumber. Beautiful in its snowy whiteness, one of the first things to be noticed is the almost total elimination of nickel work, usually found around plumbing fixtures. All metal parts and supplies are concealed in the walls by porcelain dial indicators and are operated by china handles.

The flow of the water to the bathtub and shower is controlled by a Niedecken mixer, operated by a single lever, the turning of this lever admitting cold, warm or hot water, or any variation, as desired by the bather. The device is so arranged that it can be set to any predetermined temperature and thus prevent scalding. Guests appreciate this feature, as many instances of scalding have in the past been traceable to faulty devices for controlling the temperature of the water.



Below the Lavatory is the Radiator.

The economy of such mixing device is apparent to the hotel man, as it saves in the waste of both hot and cold water, that otherwise would occur. It is not uncommon for a guest in preparing his bath to allow the tub to become filled with boiling hot water, necessitating draining off half or two-thirds of it to get the desired temperature.

This waste, which means both water and fuel, must be reckoned with seriously by the management of every large hotel and institution.

The shower heads are so placed as to enable the bather to take simply a body bath without wetting the head if so desired. The controlling device is so placed that the bather can regulate the temperature of the water before it strikes the body.

Between the two valves above the tub, one of which regulates the supply to the tub, and the other to the shower, is a by-pass valve or switch, for turning the water to the mixing valves of either tub or shower.

The tub itself is built in flush with the tile, making it as sanitary as human ingenuity has yet been able to devise. The tub, as shown in the illustration, is of a particularly attractive design, lending itself to the general style of the entire bathroom.

Just as an indication of how careful Mr. Statler has been

The Homelike Appearance of Guest Rooms is Noticeable.

with details, it is noticed that the tiling above the tub is so placed as to put the center of the tile in a vertical line with the valves.

Of the seven hundred guest rooms in the hotel, all of them are provided with bathrooms containing lavatories, closets and shower baths. Of this number three hundred and fifty-four bathrooms have both tub and shower baths.

The closet combination is of the side connection push button type, using an oil regulated valve. This eliminates the old style flush boxes, and uses about one-third the water of the ordinary tank.

Sanitary Fixtures in the Barber Shop.

The tonsorial department of the Statler is said by many to be the finest barber shop in the country. If appearances count for anything, this reputation would seem to be merited. It is fitted with Koch's finest equipment.

Each chair is provided with a wall lavatory, tiled in and supported by concealed hangers. The absence of the pedestal allows more room for the soiled towel container, and makes the barber's work easier. A mixing valve for shampoo work is also a part of the lavatory equipment. The wall lavatory extends out 32 inches from the tile, giving plenty of work room. The lavatories in the ladies' hair dressing parlor are also equipped with mixing valves.

Even the sanitary arrangements in the help's quarters are of the very best, much better than many city flats

Snowy White and Perfect in Appointments, is the Bathroom.

can boast. Solid porcelain fixtures are used there as well as in the guest rooms. The slop sinks are even of porcelain. The urinal stalls are also of the same material.

The architects of the building were George B. Post & Sons, of Cleveland and New York. They deserve the credit for a job well done, a common sense, practical and withal beautiful building. Architect Day has had immediate charge.

The entire contract was handled by the George H. Soffel Co., of Pittsburgh, under the charge of Mr. A. J.

Slonaker. His earnest efforts and efficient management of the work are apparent to even the most inexperienced eye.

Perhaps a few figures will not be out of place here. The job required 160,000 feet of water, sewer and vent pipe, and 3,000 feet vacuum cleaner piping. A total of 2,827 fixtures was required, comprising 967 lavatories, 735 drinking fountains and taps, 755 water closets, 361 showers without tubs, 354 solid porcelain tubs with showers, 53 porcelain slop sinks and 41 porcelain urinals.

Mr. A. J. Slonaker, In Charge of Plumbing Construction.

The Refrigerating Plant an Interesting Place.

A most interesting feature of the new Statler Hotel is its refrigeration and cold drinking water system. The entire installation represents what is strictly modern in a plant of this sort and is notable for its completeness.

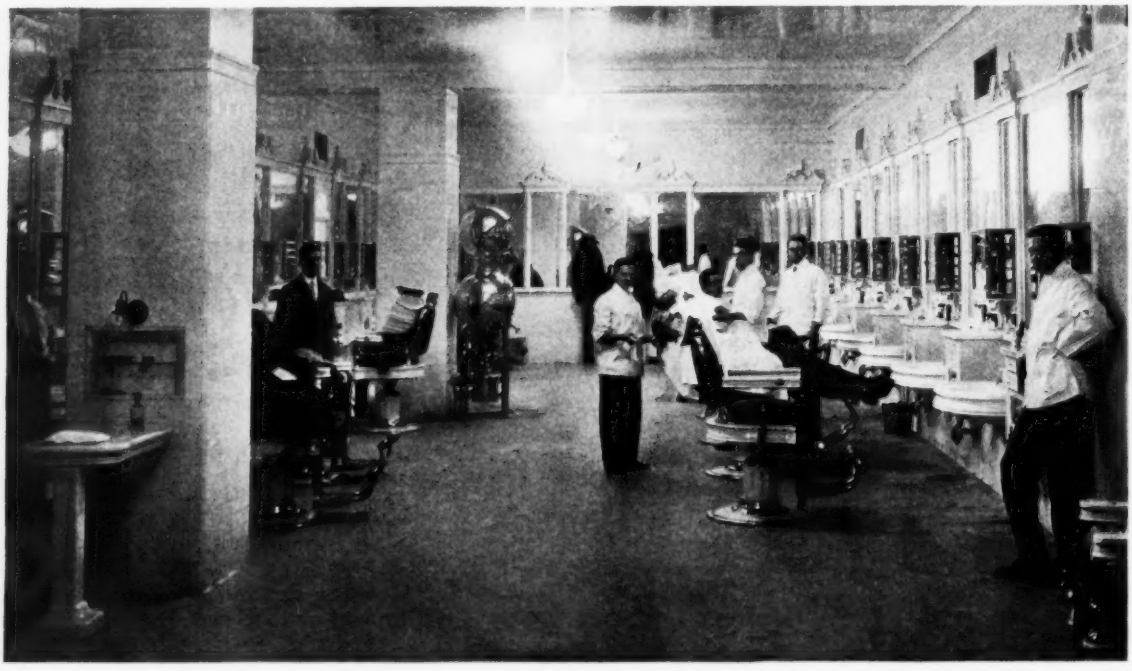
The refrigeration system proper consists of two Frick belted refrigerating machines, one of thirty tons and the other of forty tons' capacity. These are of the ammonia compression type with combined ice-making brine tank, condenser, brine circulating pipes, and duplicate brine circulating pumps. The thirty ton machine renders a service equal to the melting of approximately twenty-eight tons of ice when operated continuously for twenty-four hours. The larger machine has a greater proportionate capacity equal to the melting of forty-two tons in the same time.

From these machines run pipe lines to a brine tank containing one hundred and thirty ice cans, each holding one hundred pounds of ice when frozen.

Mr. Charles P. Sample, Erecting Engineer of Refrigeration System.

From the compressors is also a pipe line to the Baudelot cooler for the air washing machine. This cooler is designed to reduce the temperature of the water passing through it from 65 degrees Fahr. down to 55 degrees Fahr., with 180 lbs. head pressure and 60 lbs. back pressure on the compressor. Its capacity may be judged from the fact that 250 gallons of water per minute is regularly cooled in this manner.

The drinking water system consists primarily of a receiving tank, taking water from the water supply, with a float control for regulating the supply to the exact amou[illegible]



The Barber Shop of the Statler Hotel is One of the Finest in the Country.

required, an enclosed water cooling tank in the basement, an open top expansion tank in the upper part of the building, and necessary piping. A small motor driven pump delivers the water from the supply tank into the cooling tank. This pump is automatically controlled by means of a float switch in the open expansion tank at the top of the building.

Two motor driven water circulating pumps discharge the water from the cooling tank in the basement into the expansion tank at the top of the building, one or both of these pumps working constantly while drinking water is required.

The separate ice cream machine is of five tons' capacity, designed to give a service equal to the melting of five tons of ice if operated for twenty-four hours. It also is provided with the necessary condenser, receiver, brine cooler and other apparatus to keep the brine cooled to 10 degrees Fahr.

The "man on the job" for the Frick Company was Mr. Charles P. Sample, erecting engineer. He has been responsible for all the work pertaining to the water cooling apparatus and refrigerating system. He is a man recognized as being right at the top among erecting engineers. His experience in the employ of the Frick Company, of Waynesboro, Pa., and others, covers some twenty years.

Mr. Sample is a member of Morocco Temple Mystic Shrine, of Jacksonville, Fla., being a 32nd degree Mason, and is as well enrolled with the Indianapolis Consistory and the Knight Templars of Muncie, Ind., his home town.

Mr. Sample tells in an interesting way, that while installing a 30-ton refrigerating machine at White Sulphur Springs, W. Va., some time ago he discovered an old time hotel register containing the signature of Henry Clay. At that time Mr. Clay was paying $1.25 per day for board and room, 62½ cents per day for the use of a horse and 12½ cents for mint julips. Some contrast with the accommodations at the new Statler Hotel today, without doubt.

UP-TO-DATE HEATING SYSTEM FOR STATE HOSPITAL AT TRENTON, N. J.

By sanctioning the expenditure of $15,495 for improved heating and ventilating equipment in the main building at the New Jersey State Hospital, Trenton, N. J., the board of managers have taken another step to make this hospital still more of a model in advanced appointments.

Fresh air heated to a temperature of 70 degrees before it is sent into the rooms and corridors will be a feature that will probably not be found in any similar building in this part of the country.

Before it reaches the blowers, which carry it through the building, the air will first be filtered through a cloth screen to remove dust and impurities. It will next pass around a temperature coil of pipes to give it the proper warmth and then out of the various registers. The impure air will be expelled by means of other pipes. This equipment, which is most modern, will be another addition made by the board with a view of taking every step which will be conducive to the health of the patients.

When it was found last year that the main building could not be properly heated the managers took steps to have the defect remedied and 118 new radiators will soon be installed in the structure.

The Main Dining Room of the Hotel Statler is a Pretty Good Index to Its Magnificence.

Sewage Disposal Plants for Country Residences

By Warren H. Booker, C. E., Assistant Secretary of the North Carolina Board of Health, in the "North Carolina Bulletin of State Board of Health."

THE chief end sought in sewage disposal for a rural or suburban residence is to dispose of the resulting effluent in such a manner that it will always be sanitarily safe and not cause a nuisance. It should be disposed of quickly, cheaply, with no offense to the senses of sight and smell and the disposal system should require but little attention from the householder. To meet all these conditions successfully is the problem confronting the engineer. The best he can usually do is to meet some of the most essential requirements, and then approach as nearly as possible the remaining conditions.

Principles of Residential Sewage Disposal.

In order to appreciate the reasons for the present methods of sewage disposal it will be well to consider very briefly the nature of the problem and the theory of sewage disposal.

Sewage from residences having modern plumbing consists of a dilute solution of fecal matter, urine, soap, grease, food, paper, and filth from the laundry, kitchen sink, etc. Fresh sewage has but little odor, but if permitted to stand it rapidly decomposes and becomes offensive. Hence one of the reasons for quickly purifying or disposing of it.

The waste products or organic matter in sewage invariably decays and the final result of this decay or oxidation is some form of harmless mineral matter. This process of decay or oxidation is similar to the process that takes place when any organic substance is consumed by fire, the only difference being that one is a slow process while the other is rapid. By proper chemical treatment of the sewage this decay or disintegration may be delayed, but it can never be absolutely prevented, and such treatment simply transfers the possible evil to some future time or to some other territory. The proper thing to do is to furnish the best conditions possible for the speedy oxidation and resulting purification of the sewage. Sewage, instead of being rapidly oxidized by fire, is more slowly oxidized by means of bacterial action. The object, therefore, of sewage disposal plants is to assist this natural process of oxidation by furnishing as nearly ideal conditions for the bacteria as possible. To fail to furnish proper conditions for this bacterial oxidation is just as likely to cause trouble as to smother a fire. In the one case it may cause smoke and incomplete combustion; while in the other case it is likely to cause offensive odors and incomplete purification.

Purification of Sewage.

One of the best means of oxidizing or purifying sewage is to distribute it at frequent intervals either on the surface of the ground, just a few inches below the surface, or upon a specially prepared surface or filter bed. By so doing the liquid part of the sewage filters out, soaks away and evaporates, leaving behind it on the little particles or grains of the soil a thin coating of organic matter. Myriads of tiny bacteria in the upper portion of the soil develop in a short time upon this material, which is in reality their food supply. They oxidize it and render it absolutely harmless. In the course of a few hours or a day a good crop of these bacteria consume what we shall hereafter call a dose of sewage and are ready for another dose or feed. If the sewage is applied intermittently to this soil or absorption area these bacteria will thrive and convert the dangerous organic matter into harmless mineral matter by means of the oxygen of the air. If, however, the sewage is applied continuously, these tiny bacteria literally drown, and the oxidation process stops. Then it is that the soil becomes soaked or "waterlogged," a nuisance is created, and purification is hindered. If, on the other hand, sewage is applied only at long intervals, the bacteria starve between doses or feedings and the result will again be imperfect purification. Therefore it will be seen that one of the cardinal principles of such sewage purification is the intermittent application or doses of sewage to the absorption area.

Preparation of the Sewage.

Raw sewage, or sewage fresh from the residence, frequently contains comparatively large pieces of fecal matter, paper, particles of food, etc. Such pieces should be in solution or broken up into very fine particles before being applied to the absorption field, as otherwise these large pieces cannot be readily attacked by the bacteria among the soil particles. To overcome this difficulty there is usually provided a watertight settling or scum tank in which the sewage is retained for from 18 to 36 hours before being discharged onto the absorption area. During this interval two distinct processes occur. First, a considerable mechanical action takes place, the heavier particles settle out and the grease and lighter particles in the sewage come to the top. Second, great colonies of bacteria thrive and multiply in the liquid, particularly in that part of the sewage which separates. Part of these bacteria thrive either in the presence or in the absence of air, but most of them are entirely different from the soil bacteria and grow and multiply only in the absence of oxygen. The tank bacteria do not purify the sewage to any considerable extent. Their work seems to be to break up the larger particles and liquefy the organic matter, or in other words, they merely prepare the sewage to be purified by the soil bacteria. Perhaps once a year it may be found necessary to remove accumulated sludge and scum from this tank, but otherwise it will need but little attention.

Dangers of Cesspools.

Many people used to drain their sewage to a cesspool or sink hole in the ground and let it soak away of its own accord. From what has already been said it will be readily seen why these antiquated cesspools were so dangerous. They were built on entirely wrong principles. In the first place, as already indicated, soil bacteria are found only near the surface of the ground. Few exist below eighteen inches or two feet from the surface, and there is therefore little means of purifying sewage in the bottom of an eight or ten foot hole. In the second place the sewage is applied continuously and frequently partly or completely fills the cesspool. Such action drowns out all the soil bacteria that might possibly be there or be raised there. Furthermore, the immense quantity of sewage poured into these holes not only remains unpurified, but is forced by gravity directly into the

ground water stratum, polluting the surrounding soil and wells, sometimes for a considerable distance.

Disposal of Kitchen Slops.

Kitchen slops and wastes consist of large quantities of water containing small amounts of soap, grease, food particles, etc. They rarely contain any dangerous sewage pollution. Treating kitchen sink slops and wastes alone is a very simple matter. In rural communities the kitchen sink is frequently trapped and drained to a trough in the hog or chicken lot. When such a procedure is not desirable the waste water may be carried by a drain pipe to a point a few feet outside the house to a grease trap, from which it may be distributed through the soil by means of porous farm drain tile.

A grease trap may be readily made of cement or by means of a single length of 12 to 18 inch vitrified sewer pipe. This pipe is firmly set in the ground, bell end up and level with the top of the ground. The inlet pipe from the kitchen sink is tapped into this piece of pipe near its middle, while the outlet pipe leaves the opposite side. A short elbow attached to the outlet on the inside of the vitrified pipe dips down a few inches below the level of the liquid. By this means a large part of the heavier sediment settles to the bottom of the trap, while the grease floats above the outlet. Of course the bottom and all connections to the trap should be cemented and made water tight. A round lid should be fitted to the top of the trap, and the accumulations should be removed every few months.

From the trap about twenty-five feet of ordinary three or four inch tile laid with open joints at a depth of about a foot below the surface of the ground will care for the sink drainage from a family of from four to six people. If there are large quantities of waste, or if the soil is very dense, mucky or impervious, forty or fifty feet should be used. Inasmuch as a strainer is always used in the sink, no large particles of organic matter can enter the tile. The customary use of the sink for washing dishes and the waste water from the three meals each day serves for its intermittent flushing. While such an arrangement may not be theoretically as good as many sanitarians would desire, yet the writer knows of a number of such arrangements, one of which is still operating satisfactorily after fourteen to sixteen years' service, it being necessary to clean the grease trap only at long intervals.

Residential Sewage Disposal.

While the disposal of kitchen sink wastes, where there is no plumbing or water service, is so very simple, the disposal of the sewage from a residence having modern plumbing and provided with a bath, closet, kitchen sink and laundry tubs becomes a matter of some importance.

To undertake this problem intelligently we should consider the following points: the average daily amount of sewage expected, the available space for its disposal, the character of the soil, the proximity of wells, the slope

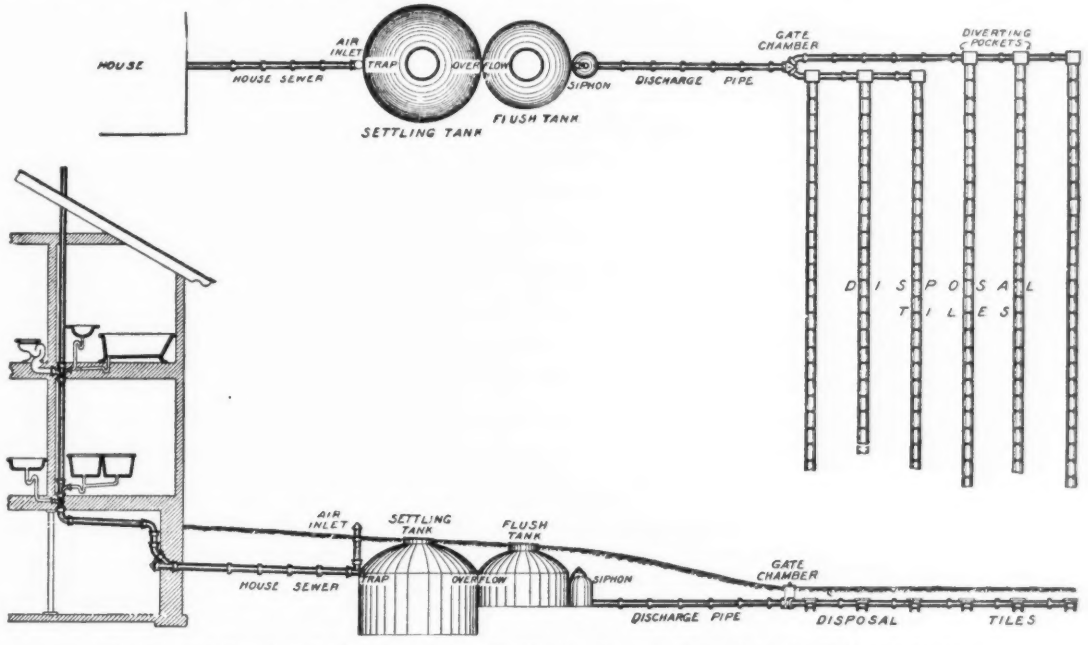


Fig. 1. Details of a Typical Subsurface Residential Sewage Disposal Plant.—Plan and Section.

or fall of the ground, and the price of labor and of materials such as sand, tile, brick, and cement, as well as any peculiar local conditions that may prevail. In this brief discussion we shall limit ourselves to a short statement of the general plans and principles that should govern in the design of a plant for a household of not over ten or twelve people using modern plumbing.

The Settling Tank.

Statistics indicate that the average daily consumption of water per capita in towns ranges from fifty to one hundred gallons. This, however, included water for street sprinkling, sewer flushing, fire purposes, etc. For strictly domestic purposes the daily consumption usually ranges from twenty-five to fifty gallons. When no accurate data is available it is usually safe to estimate the average daily water consumption and resulting sewage flow per person at thirty-five gallons. In order to give the tank bacteria opportunity to do their best work, and also to avoid the possibility of delivering stale or putrescent sewage to the soil bacteria, the settling tank should be designed to con-

tain not over from 18 to 36 hours' sewage flow. For ordinary residences these tanks are frequently built circular or jug-shaped, and arched in at the top to a manhole. See Fig. 1. This is the easiest mode of construction, although others make them rectangular. See Fig. 2. The tank should be constructed of brick laid the 8-inch way and set in cement mortar. The wall should be plastered inside and out to a few inches above the flow line with cement mortar to make it water tight. To prevent sud-

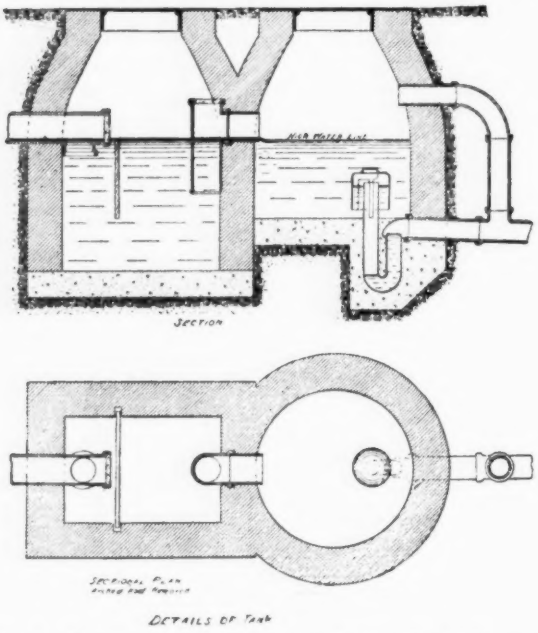


Fig 2. Section and Plan of Scum or Settling Tank, Showing Inlet, Baffle Board, Overflow and Siphon.

den inrushes of sewage from stirring up the contents of the tank it is best to have the inlet pipe bend down by means of an elbow just inside the tank so that it discharges the sewage about a foot below the flow line. It is also desirable to place one or more baffle boards near the inlet to further prevent these disturbances. As already explained, the tank bacteria work best when the sewage is comparatively quiet. The outlet or overflow from the tank should also dip below the surface, in order to avoid carrying any of the surface scum or undissolved organic particles into the flush tank.

The pipe leading from the house to the tank should be a four inch vitrified pipe laid with carefully cemented joints and at a uniform grade of not less than one per cent, or one foot in a hundred. A steeper grade than one per cent is more desirable if it can be obtained.

Contrary to usual opinion, it is not necessary to have the tank at any considerable distance from the house. They have been located within twenty-five feet, and no objection resulted. Very little odor is evolved from such a tank, particularly after the first month of its operation. In fact there should be no more objection to such a tank, if well covered, than from a well covered garbage can. Besides, there is little danger from disease from any gases or odors which may be evolved, even from large city plants. The use of flower beds or a clump of shrubbery is the usual means of hiding the opening or manhole of such a tank, should it be found necessary to locate it in an exposed place.

The Flush Tank.

From the scum or settling tank the clarified liquid flows into a flush tank. This tank simply retains the more or less irregular discharges of sewage until it reaches a certain depth, when it is automatically discharged by a siphon. These siphons can be purchased from a number of manufacturers. Fig. 2 illustrates one form of flush tank and siphon, although there are several different makes and designs. It has been found rather difficult to keep these siphons always working properly, as they sometimes become clogged with scum or sludge. They should be examined occasionally to see that they are working satisfactorily. It has been found that if the siphon is protected by baffling or if it is placed in a separate chamber it is not so likely to become clogged and fail to work. See Fig. 1.

The size of the dosing tank should be such that it will contain from twelve to twenty-four hours' sewage flow. By this means the bacteria in the absorption field are fed at frequent intervals, but not so often that they are drowned. No part of the absorption field is "waterlogged" by this sudden intermittent dosing, and the bacteria can thoroughly purify the applied sewage before another dose is added.

The Absorption Field.

From the dosing tank or siphon chamber the sewage flows through the discharge pipe into the disposal tiles, which are usually three, four or five inch farm drain tiles laid in trenches at a depth of not over twelve inches. They should be very carefully laid with open joints and to a grade of not over two or three inches to a hundred feet. By this means no part of the field is over dosed. The joints should be loosely covered with pieces of broken tile, preferably of a larger diameter, to prevent their filling up with earth.

The total length of tile in the absorption field will depend upon the quantity of sewage expected and upon the character of the soil. In ordinary soil four inch disposal tile may be used, while in loose, porous, sandy, or gravelly soil five or six inch tile will work satisfactorily. In dense, clayey or mucky soil it is better to use three inch tile, and it is also advisable to back fill the trenches even with the top of the tile with sand, gravel or cinders. Ordinarily it is safe to have about one foot or slightly more of four inch disposal tile for each gallon of sewage ex-

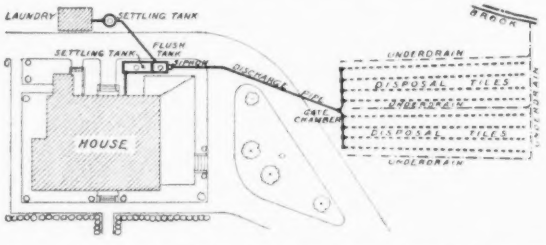


Fig. 3. Rectangular Tanks Close to House. Separate Settling Tanks for Laundry Building. Underdrains in Disposal Area to Drain Out Underlying Ground Water and Water From Purified Sewage in Naturally Wet or Dense Soil.

pected daily. The capacity of the dosing tank may exceed the total volume of the disposal tile by from ten to fifty per cent, as a large part of the sewage rapidly escapes into the soil while the remainder is flowing from the siphon chamber.

The lines of tile may be as close as three feet in porous, sand soil, but in more dense, clayey soils the rows should be not closer than five feet. Furthermore, in

dense soil it may be necessary to underdrain the absorption field. This is done by laying lines of underdrain tile between the lines of disposal tile, as shown in Fig. 3. The underdrains should be laid at a depth of three and one-half or four feet, and no direct connection should in any case be made between the disposal and the underdrain tile. While such a system of disposal tile frequently works for years without causing any trouble, yet they will occasionally become clogged and require cleaning. This is rarely a big job, however, as they are never laid very deep.

While it is not advisable to lay lines of disposal tile near a well furnishing the domestic water supply, there is no objection whatever to having them under the front lawn. See Fig. 4. Excellent grass or vegetables may be grown where these tiles are laid.

It is not advisable in any kind of fine grain sewage filter to work it continuously. It has been found far better to have two absorption fields, so that they may work alternately for periods of a week or ten days, particularly during wet weather. Filters, or the soil in this case, apparently do better work if allowed several days occasionally to thoroughly aerate. To provide for this resting or aerating, a gate chamber or stop box is placed in the discharge pipe to divert the flow from one set of tiles to another. See Fig. 1. The operation of this gate

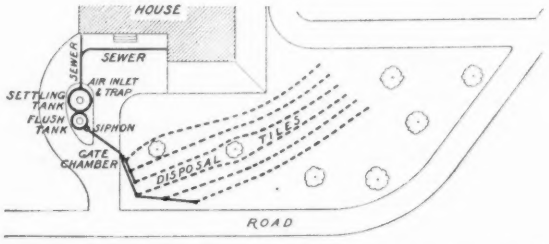


Fig. 4. Tanks Near House in Small Oval Enclosed by the Drive. Disposal Tile Laid in Lawn and Among Shrubbery

is very simple, consisting merely of placing the stop first over one branch and then over the other.

In the branch lines are arranged diverting pockets, so that as nearly as possible equal amounts of sewage are diverted into each line of disposal tile. By thus percolating through the ground the bacteria in the soil and the filtering process may be depended upon to remove the impurities so that while it may not be safe to drink, yet the effluent will never be in danger of creating a nuisance, nor should it affect a stream into which it is discharged for the purpose of watering stock.

This system of sub-surface disposal, as above described, is suitable under all ordinary conditions for dwellings, small institutions, or other buildings having a daily flow of less than two thousand gallons of sewage. For greater quantities of sewage it is usually best to use surface irrigation or some form of filter bed.

Surface Irrigation.

In the case of surface irrigation it is not so essential to have all the particles of organic matter dissolved or liquefied, so in the place of the settling or septic tank there is substituted a sewage storage tank or dosing tank. See Fig. 5 for a typical layout, plan and section of a surface irrigation system. As the sewage enters this tank it is screened by means of a wire screen basket having about one-half or three-fourths inch meshes. This more or less effectually removes the coarser particles from the sewage. This basket screen is occasionally removed and its contents buried under a few inches of soil.

To further restrain the particles of organic matter a finer screen is frequently placed across the tank near its middle. This screen should have about one-fourth inch mesh.

The automatic discharge of the sewage by means of a siphon is similar to that in the case of the sub-surface system. In this case, however, instead of having the sewage flow into open jointed tiles in the ground it is spread over the surface of the ground and filters downward from

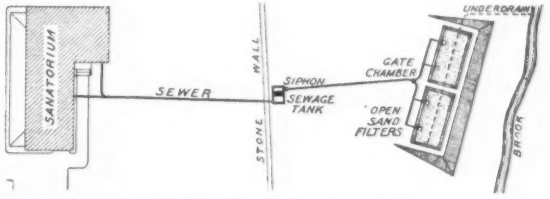


Fig. 6. Sewage Disposal Plant With Small Open Sand Filter Beds.

the surface. Either a slab of stone, a bit of paving, or some anchored or weighted plank or platform is provided at the outlet of each distributing arm. By this means the sewage is quietly and quickly spread over large areas. This system is best adapted to porous, sandy or gravelly soils. It is of course not so well adapted for use near residences or where it is much exposed to passers-by. It may be used to advantage for residences, institutions large and small, and even for villages and towns. Used on a large scale it requires about one acre of ground for each two hundred of the population.

Strong prejudices exist against this form of disposal because of the traditional notion that sewage is, under all conditions, offensive and dangerous, whereas if the sewage tank is not designed to contain much over one day's flow no trouble will arise. There is nothing in fresh sewage that the upper soil and free exposure to

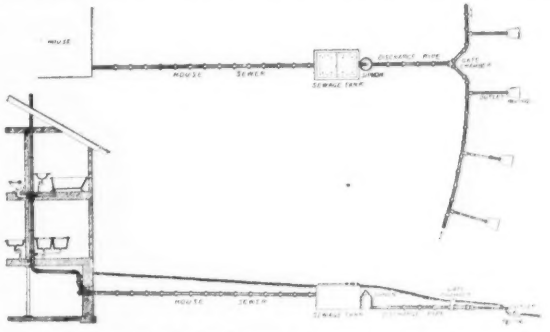


Fig 5. Details of a Typical Surface Irrigation Plant.—Plan and Section.

the air will not render harmless without causing trouble in any way.

Sand Filters.

Occasionally in the case of large institutions it may be impossible or inexpedient to purify the sewage by surface or sub-surface irrigation. It is therefore frequently necessary to use a specially prepared surface of sand, as shown in Fig. 6. When sand is used almost ideal conditions are provided for bacterial action, and a high degree of purification is usually obtained on a very small area. If the sand filter is near a residence it will probably be

desirable to cover it. Such a covered sand filter should be preceded by a covered septic or settling tank and flush tank similar to that described for sub-surface irrigation. If, however, the filter surface is to be left uncovered fresh sewage may be applied and a sewage tank with screens will serve as the preliminary treatment.

Large Disposal Plants.

When large quantities of sewage are produced, and particularly where a high degree of purification is required, the process becomes correspondingly complex, and the services of an engineer are required. Fig. 7 represents a complex disposal plant for an institution of five hundred. It consists of a screen chamber, a settling tank, a dosing

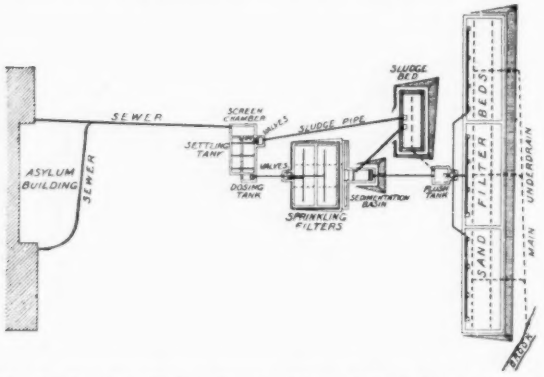


Fig. 7. Complex Modern Sewage Disposal Plant for an Institution With a Population of Five Hundred.

tank, sprinkling filters, a sedimentation tank, a flush tank, and open filter beds. A full description and explanations of the many combinations of various operations of such plants are beyond the intended scope of this article.

PUBLIC DRINKING FOUNTAINS IN NEW YORK CITY IN BAD SHAPE.

The fountains of Paris are its pride; the fountains of New York, for man and beast, are a reproach to its citizens, judging from a recent investigation by the Bureau of Municipal Research, says "The Survey."

Inspection of two-thirds of the 200 free fountains for human beings in Manhattan showed half to be unfit for use. Of these, twenty-nine were entirely dry during the hot summer months. As for the other half, the sanitary ordinance of January 30, 1912, abolished the common drinking-cup, but contained no provision for a substitute, with the result that citizens can now, in many cases, get a drink only by turning themselves "wrong side up" and drinking from the faucet. It is true that Park Commissioner Stover has given orders that "where it is impossible to get the head under," the faucet itself should be turned "wrong side up." But even so, only thirty-five bubblers were found, all told, and of these fifteen were unfit for use; in the vast majority of the fountains the faucet itself, so placed that it does not get the wash of the water, has become a very inconvenient and dangerous common drinking-cup.

One of the charity fountains supplies paper cups at a cent apiece, but this is no more a free drink than the Cent-a-Drink supplies, with no pretentions at charity. The Cent-a-Drink, incidentally, appears to be thriving, and no wonder, for in such centers as City Hall and Battery Parks it competes with a free fountain having "three faucets, one dry, the other merely dripping" in the latter park, and in the former, it has no competitor at all.

In addition to their inadequacy in supplying what the public needs, the bureau notes the bad sanitary condition and evident neglect of practically all the fountains.

"Fountains are neglected," says the report, "in spite of the fact that inspectors are around them all the time, who should see that they are clean, and that the water does not run over and make mud puddles at the base. Many of the beautiful memorial fountains are marred by the same disgusting features found around the simple fountains."

One reason for overflow is the perpetual flow; and in this connection the bureau hazards the suggestion that the hundred new fountains that could be supplied by the wasted water might be of more importance to the public than the slight added coolness that a constant flow supplies.

Finally, the placing of fountains comes in for criticism.

"Most of the fountains operated by the city," says the report, "are found in parks or public highways. Unquestionably a relatively small percentage of the people who are working hard and who are working on the streets, go through a public park often enough to have their thirst satisfied by no matter how many fountains in the parks. Within the parks themselves the number of drinking fountains is not in proportion to the demand for them, nor is their location in accordance with relative demand. Along the Harlem river speedway, for instance, there are seven fountains having two or threet jets each pouring forth streams of water—for whom? For nobody, most of the time. In contrast is the deck for pedestrians on the Williamsburg bridge, which is usually very crowded, especially in the evening. Only two fountains are found there, both of which, unfortunately, are dry. Again, in the little park situated near Thirty-fifth Street on Second Avenue, are found eight fountains for the comparatively few people who visit it, while Washington Square has only two fountains for its continuous large crowd."

The report closes with an appeal for more fountains, addressed especially to churches and Y. M. C. A.'s, which it says have advantageous positions in the most crowded sections of the city.

Only "Dry" Place.

"Where can I get a drink in this town?" asked a traveling man who landed at a little town in the oil region of Oklahoma, of the 'bus driver.

"See that millinery shop over there?" asked the driver, pointing to a building near the depot.

"You don't mean to say they sell whiskey in a millinery store?" exclaimed the drummer.

"No, I mean that's the only place here they don't sell it," said the 'bus man.—Kansas City Star.

Fragile Father.

A man traveling in Maine met a middle-aged farmer, who told him his father, aged ninety, was still on the farm where he was born.

"Ninety years old, eh?"

"Yep; pop's close to ninety."

"Is his health good?"

"Tain't much now. He's been complainin' for a few months back."

"What's the matter with him?"

"I dunno; sometimes I think farmin' don't agree with him!"—Saturday Evening Post.

British Standardization of Vitrified Ware Pipes

By J. Farley, Vice-President of the British Institute of Sanitary Engineers

THE British Engineering Standards Committee, appointed some ten years ago by the Institution of Civil Engineers, is now engaged in a systematic endeavor to find a convenient standard for the manufacture of vitrified ware pipes, such as those which are in use by sanitary engineers, but, perhaps, there are some who may have but little knowledge of how it is proposed to attain this result. A Sectional Committee has been formed composed of delegates from all Institutes and other bodies whose members are in any way interested in the subject, and each of the associations of manufacturers have been invited to send representatives to act with the Committee, thus bringing together the users and manufacturers for the purpose of having a round table conference. It is not proposed to adopt a permanent standard which shall fix for all time the formation of the pipes, but, after a suitable standard has been arrived at, it is proposed that the Committee shall still meet from time to time to discuss any further improvements or alterations in the standard arrived at in the first instance, which future reference may suggest as necessary or advisable. I think it is very important that this fact should be thoroughly understood, as I know many engineers and manufacturers are showing signs of fear that if a fixed standard is laid down it will destroy all initiative, which, of course, would be a grave mistake.

The position at the present time is as follows: Two meetings of the Standardizing Committee have been held. The first meeting was arranged for the purpose of settling administrative details. The second was held for the purpose of receiving suggestions (made solely with the view of initiating discussion) which were submitted by the Council of the Municipal and County Engineers. These suggestions, however, were only partially discussed, and it was felt to be advisable that, before attempting to arrive at any definite conclusion, we should have the opinion of the manufacturers as to their views of the suggestions made, and it was also felt that their representatives should have ample time to consider these suggestions before asking them to formulate any opinions. Until this report is produced I cannot ask our Council for instructions, as I have no knowledge of what method is likely to be adopted for the formation of a standard. It appears to me, however, that it is now quite time that the members of our Institute should have some knowledge of the suggestions which have been made, so that their minds may be prepared for arriving at a decision quickly when the time comes. As an Institute we have only one voice in the Committee, but I have a firm conviction that every useful suggestion will be very carefully considered, and that no suggestion of any value will be overlooked. To enable our members to consider the matter I hope, with the consent of the Engineering Standards Committee, to be in a position in the near future to circulate some suggestions with space for their comments, so that, at all events, we may know the views of the majority, but, although the Standards Committee has been formed in such a fair and open way, the following are among some of the points that will doubtless receive the attention of the Committee. (1) Is it advisable to adopt a chemical standard for the clay mixtures? (2) Should the manufacturers be instructed with regard to the preparation of the clay? (3) How should the pipes be made? (4) Shall pipes be described as stoneware, vitrified stoneware or vitrified ware pipes? (5) Suggestions as to thickness of pipes. (6) Depth of socket and jointing space to be allowed. (7) How are pipes to be glazed? (8) How are pipes to be tested? (9) How are pipes to be marked? (10) How is quality to be denoted? (11) What is to be the maximum deviation from straightness, correct diameter, and uniformity of thickness? I have spent much time in the consideration of these various suggestions, and the conclusion I have arrived at is as follows: With regard to forming a chemical standard for the clay, I believe this to be impossible. It is now thirty-six years ago since a few engineers endeavored to form a chemical standard for distinguishing stoneware from earthenware pipes. After spending a considerable amount of time and money it was found to be impossible. A first-class analytical chemist was engaged, who pronounced it to be useless to attempt to arrive at any satisfactory result by analysis of the clay. It is so long ago that I do not remember the whole of his report, and, although I kept the correspondence some years, I am sorry that it has now disappeared, but his principal reason was, so far as I can recollect, that an analysis would only show the amount of silica in the clay, and would give no distinction between the soluble and insoluble silica, nor the proportion one bore to the other, and that no analysis would show how the clay would behave in the fire. The subject was thrashed out from every point of view, and the conclusion arrived at was that putting aside the question as to whether it was possible or impossible to obtain a chemical standard (on which some amateur chemists have much to say), even if it were possible to do so, we had only got the pipes to the entrance of the kilns, and that no matter how superior the clay might be, the pipes might easily be ruined in the burning before they got through the kiln.

With regard to the suggestions Nos. 2 and 3, having reference to the instructions to be given for the preparation of the clay and the manufacture of the pipes, this hardly seems necessary, as, unless the clay is properly prepared and the pipes properly made, they cannot pass a proper standard, and, moreover, it does not appear possible for us to instruct men who have spent their whole lives at the business, having regard to the fact that our own knowledge must be, to a very great extent, second hand and of a very limited amount.

As to suggestion No. 5, relating to a standard thickness. An arbitrary thickness is scarcely advisable, as there is a very considerable difference in the strength of clays, and it is a very minor matter to the engineer whether a pipe is thick or thin, providing it will conform to a proper standard of strength. A minimum thickness may be advisable for the various sizes, but the maximum thickness appears quite unimportant. A minimum thickness will be necessary, as we may take it that the manufacturers will make their pipes as thin as the standard will allow for the purpose of keeping down the weight where railway carriage is an important item.

In fixing upon a standard it appears to be most important that it should be as lenient as is possible, having proper regard to the purpose for which the pipes are required, and the duty they are required to perform, as

the material to be dealt with cannot be treated by the same methods as those which would apply to metallic substances. We must also bear in mind that any fixed standard, which in many cases is necessary, will very considerably increase the cost of the pipes, therefore due regard should be paid to this point. It is necessary that all manufacturers should conform to a uniform standard, but I cannot agree that the cost of doing so does not matter. The cost may not be of much importance to the engineer, but the ratepayer will look at it from another point of view, so that all unnecessary restrictions should be carefully avoided which would have a tendency to increase the cost of manufacture without any corresponding advantage from a purely sanitary point of view.

Before setting up any standard it is necessary to consider carefully what we really require. In my opinion the following are our principal requirements:—We want a pipe reasonably true as regards straightness and uniformity of manufacture. A pipe which will give a uniform diameter and thickness and proper space for jointing in the socket. One that is non-porous and of sufficient strength to withstand any pressure to which it is liable to be subjected, and we want a pipe which will not be liable to disintegration. Unless pipes will conform to these requirements they are not suitable for our use, and I believe the requirements mentioned are quite easy to standardize. We have a right to say to the manufacturers: "Unless your pipes will conform to a suitable standard as regards the points indicated we will not use them." I suggest:—(1) All pipes should be within a certain limit as regards deviation from straightness; (2) the diameter of the pipe must not vary beyond a fixed margin; (3) a uniform and suitable space must be allowed in the socket for jointing; (4) the pipes must not be less than the minimum thickness; (5) the pipes must be non-porous; (6) the pipes must be capable of standing a proper pressure; (7) the pipes must not exceed a fixed margin of expansion between freezing and boiling points; (8) the pipes must not be liable to disintegration; (9) all pipes must be branded. I believe it is quite possible to standardize the requirements mentioned. As regards the suggestions that the clay used shall be of a fixed chemical standard and that a specification should be prepared for the manufacturers to work to, well, if we obtain what we want in the directions I have indicated then what the clay is composed of or how it is worked does not appear to be important. If the material was suitable for the purpose, and if it has been properly worked, will be shown in the results, by which alone we can judge with any degree of certainty whether the pipe is suitable for our purpose or not. The question of whether the pipes are to be tested before or after glazing is, I consider, one of some difficulty, as I believe the manufacturers themselves will be divided on this point. Personally, I am in favor of the pipes being tested in an unglazed condition. The action of glazing is purely a surface treatment, and although salt glazing does not craze to the same extent as many other glazes, still there is no glaze known which will expand and contract equally with the material on which it is laid, as the glazing does not form an integral part of the structure. It follows, therefore, that we cannot trust to the glazing to render the pipes non-porous for all time. To my mind it appears quite certain that the fact of the pipes being porous allowed a breeding ground for what I will term the beneficent bacteria, and these gentry would not allow any of their malignant brethren to find a settlement on the walls of the pipes. In the case of a highly glazed surface the breeding ground for our friends is sealed, and I believe if the coating of slime which rapidly accumulates on all highly glazed surfaces were analyzed, it would be found to be composed almost exclusively of malignant germs. If my arguments are correct, naturally it follows that highly glazed pipes are of no advantage from a sanitary engineer's point of view, other than the not very creditable function of window dressing.

THROUGH THE SAFETY VALVE.

By H. E. S.

Have ye ever had 'em, neighbor?
I mean clinkers on the brain,
That ye couldn't budge to save yer,
Though ye push an' jerk an' strain.

Pesky things, is them there clinkers,
Stoppin' up yer think-box flues;
Maybe spreadin' o'er yer blinkers
Till ye can't tell pinks from blues.

Once they're in don't be a croaker,
Don't puff an' blow an' spout.
Just pick up a crook-end poker
An' gently lift them clinkers out.

Son (studying supply house catalogue): "What does 'Q. O.' mean, Dad?"

Father (steam fitter, figuring job): "'Q. O?' What 'Q. O?'"

Son: "Why this 'Q. O.' here before 'corner valves'."

Father (feelingly): "Oh! I guess that means 'quite ordinary'."

The usual heating crowd was gathered round the usual table in the restaurant where they usually go for lunch.

"Speaking of pensioners," said the man with pumpkin pie a la mode, "an old fellow who sometimes does odd jobs for me and lends a hand when the boys are rushed, had some sort of trouble about his pension. He needed some legal documents so he went to a lawyer friend who fixed him up and presented a bill for thirty dollars.

"'Thirty dollars, Mr. Thomas!' said Old Joe, in amazement. 'Surely must be some mistake. Why you ain't been more'n twenty minutes at them papers.'

"'No. No mistake, Joe,' returned the lawyer smilingly. 'You see it's not the time you're paying for; it what's up here (taps forehead) that costs. It took me a long, long time to learn how to draw up those papers.'

"'Oh, that's it, eh?' said Joe, pulling out a roll and almost annihilating it by peeling off three tens. 'Wall, here's the thirty. Larnin' do come high, don't it?'

"About a year later Lawyer Thomas' boiler needed cleaning out so he had his wife send for Old Joe. When he had finished the job she asked what they owed him.

"'Thirty dollars, mum, if yer please.'

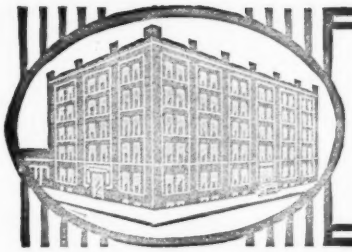
"'Why Joe, that's ridiculous!' she protested.

"'Thirty dollars is my charges, Mrs. Thomas,' said Joe obstinately.

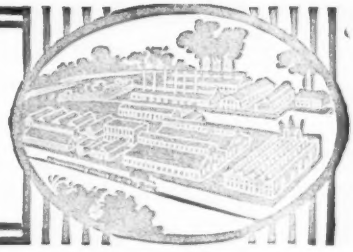
"'Well, of course, I shall not pay it,' she returned hotly. 'I shall speak to Mr. Thomas and he will settle with you.'

"'Alright mum, but when you speak to Mr. Thomas just tell him it ain't the time he's payin' fer; it's what's up here (taps forehead). It took me a long, long time to learn how to clean out a boiler.'

"Next day old Joe got a check for thirty dollars."



News of Interest Among the Wholesalers and Manufacturers



PASS RESOLUTION ON FICTITIOUS BILLING.

Frank S. Hanley, secretary of the Eastern Supply Association, has just issued notice to the effect that this association adopted the following resolution at its annual meeting in New York City on Wednesday, October 9:

"Whereas, members of this association have been frequently requested by customers to furnish fictitious invoices for supplies sold, particularly where such customers have taken contracts on a percentage basis, and

"Whereas, we do not believe that compliance with requests of this character is justifiable, either on the ground of good business policy or ethics,

"Therefore, Be It Resolved, that in the future we will absolutely decline to furnish any such invoices, and will only furnish regular bills or invoices applying to such purchases."

This is considered a most important resolution, and it becomes operative at once.

PERSONAL MENTION.

A. M. Minnick, manager of the advertising department of the United States Radiator Corporation, of Detroit, Mich., was in Chicago this week.

* * *

A visitor to the office of "Domestic Engineering" this week was Mr. Charles B. Irish, of the Leader Iron Works, Decatur, Ill. He reports fall business excellent.

* * *

J. C. Teague, secretary of the Honeywell Heating Specialty Co., of Wabash, Ind., was in Chicago this week and called on some of his friends, among them "Domestic Engineering."

* * *

The E. W. Fisher Co., of Cleveland, Ohio, has recently placed Mr. Ray Keevan in the field as city salesman. He has for some time been in the general office of the company.

* * *

Frank Howell, assistant sales manager of the American Radiator Co., Chicago, is leaving this week for a three-months' trip visiting the European plants of the American Radiator Co.

* * *

H. H. Trayte is now calling on the trade in northern Ohio for the Columbus Brass Co. His headquarters are at Cleveland. He was formerly with the United Brass Mfg. Co., of that city.

* * *

F. S. Whitelaw, manager of the boiler department of the American Radiator Co., Chicago, has resigned from this position to become manager of the American Radiator Co's. Canadian plant at Bradford, Ontario.

* * *

When W. A. Ratcliffe, president of the Republic Mfg. Co., Chicago, last Tuesday night saw two men attack and drag a man into an alley on Washington Boulevard, he chased them first in his automobile and then afoot with the result that he caught one of the robbers and turned him over to the police. The man, who had been robbed and beaten, was found in an unconscious state, and he identified the robber after having his wounds dressed.

* * *

Arthur W. Magill, of the Kewanee Boiler Co., Kewanee, Ill., has just returned to the Chicago office of that company, and his many friends in the trade are glad to see him again. He has been away from Chicago for eighteen months doing special work for the Kewanee company, and his absence from the Chicago trade, particularly on festive occasions, such as picnics and receptions, was a source of regret to his friends.

LEADER IRON WORKS' EXHIBIT AT ILLINOIS STATE FAIR.

Seeing is believing, and the recent exhibit of Leader Water Systems, pumping machinery and power at the Illinois State Fair, is an example of it. Many plumbers were about the exhibit during the week, and a number of them brought with them customers to whom were shown the various styles of private waterworks equipment. A number of sales were made by the plumbers right at the exhibit, and the Leader people say that it was the most successful fair display they have ever had.

STANDARD MFG. CO. TO ESTABLISH BRANCH HOUSE AT ERIE, PA.

The Standard Mfg. Co., of Pittsburgh, Pa., has purchased the building and two adjoining lots, 41 x 140 feet, of the Northwestern Pipe & Supply Co., at 17 West Eleventh street, Erie, Pa., where it will at once erect a four-story building with basement, for its own use. At this branch a complete line of plumbing, heating and mill supplies will be carried. This branch will be conducted under the management of John E. Fitzgerald, for twelve years connected with the Duquesne Sanitary Co., Pittsburgh, and lately as secretary and manager. This new branch house of the Standard Mfg. Co. will be an important addition to its chain of northern branches, under the general management of C. A. Carothers, of Pittsburgh.

THE ANNUAL MEETING OF THE ILLINOIS CHAPTER OF A. S. H. & V. A.

The Illinois Chapter of the American Society of Heating and Ventilating Engineers held its annual meeting at Vogelsang's Restaurant, Madison Street and Fifth Avenue, Chicago, on Monday evening, October 14th, and elected the following officers: President, J. M. Stannard; vice-president, George H. Getschow; secretary, W. L. Bronaugh; treasurer, August Kehm; board of Governors: Samuel R. Lewis, R. A. Widdicombe and L. C. Soule. The following gentlemen were admitted into membership of the chapter: Wm. Lees, Herbert K. Lees, jr., and J. E. Miller, jr.

A Few Intimate Likenesses of Central Supply Association Members

Sketched by Domestic Engineering's Staff Artist at Hotel Stratford, Chicago, Last Wednesday

Regular Annual Meeting of the Central Supply Association

AT the Stratford Hotel, Chicago, last Wednesday, October 23rd, occurred the eighteenth annual meeting of the Central Supply Association. It was marked by an unusually large attendance of members, and many manufacturers' representatives were also to be seen.

Routine business was transacted, and after that had been disposed of the members listened to a most able address by Mr. Harry A. Wheeler, president of the National Chamber of Commerce. This body is composed of various commercial organizations, represented by a counselor from each body. Mr. Wheeler urged several practical reforms and spoke of the need of more concerted action in their execution.

WILLIAM IVY

The election of officers resulted as follows:

President, William Ivy.
First Vice-President, P. J. Frey.
Second Vice-President, C. V. Kellogg.
Treasurer, Edw. F. Niedecken.
Secretary, Paul Blatchford.

The Executive Committee is made up of the following:

William Ivy	George H. Gorton
P. J. Frey	E. A. Morris
C. V. Kellogg	A. A. Merkel
Edw. F. Niedecken	J. B. Rahm

C. A. Carothers

The National Committee was appointed as follows:

Members.	Alternates.
J. J. Ryan	A. B. Pierce
W. A. Myler	M. J. O'Fallon
John F. Wolff	H. M. Hoelscher
E. D. Keeler	A. A. Merkel
George H. Bailey	A. Y. McDonald

Four firms were elected to membership, these being the P. L. Bristol Supply Co., St. Joseph, Mo., Bond Supply Co., Kalamazoo, Mich., Michigan Plumbing Supply Co., Detroit, Mich., James M. Teahen, Detroit, Mich.

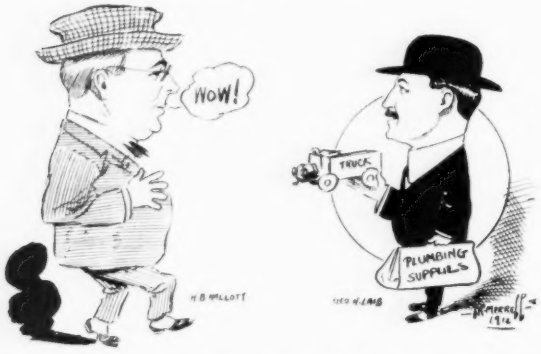
Mr. John F. Wolff was elected Counselor to represent the Central Supply Association in the National Chamber of Commerce.

Following is the list of those registered. Where no name is mentioned, a proxy had been provided.

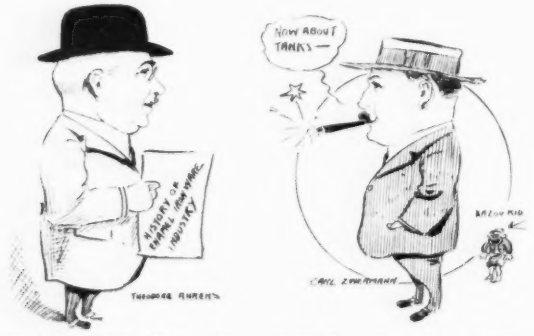
ANDERSON, IND.—May Supply Co., I. E. May.
ATLANTA, GA.—General Supply Co.
BARBERTON, OHIO.—Pittsburgh Valve & Fittings Co., C. L. Selkregg, G. P. Cartwright.
BIRMINGHAM, ALA.—Hammond-Byrd Iron Co., W. M. Byrd, Jr.; Chas. W. Badger.
Young & Vann Supply Co.
BURLINGTON, WIS.—Burlington Brass Works, C. Roy McCanna, Geo. P. Stanwood, S. Jacobsen.
CANTON, OHIO.—The Novelty Iron Works.
CEDAR RAPIDS, IOWA.—Dearborn Brass Co., E. S. Seeley.
CHATTANOOGA, TENN.—The Cahill Iron Works, F. H. Caldwell.

CHICAGO, ILLINOIS.—American Radiator Co., Chas. K. Foster, J. E. Holland, M. J. Burn, Jr., R. B. Flershem.
Chicago Granitine Mfg. Co., J. A. Washick.
Clow, Jas. B., & Sons, C. J. Clow.
Crane Co., C. D. Little.
Deschauer Co., S., Otto S. Deschauer.
Federal-Huber Co., A. F. Johnson, D. A. Raymond.
Henion & Hubbell, R. C. Mead.
Illinois Malleable Iron Co., J. R. Steneck, M. M. Marshall.
Kellogg-Mackay Co., C. V. Kellogg.
Mark Mfg. Co., W. H. Bruce, Mann C. Richel, C. W. Larson, Frank F. Corby, L. P. Sutter.
National Plumbing & Heating Supply Co., E. C. Garrity.
The Nye Tool & Machine Works, H. G. Nye.
Peerless Heater Co., A. Bodesweiser, R. N. Wilt.
Raymond, H. S., A. W. Lally, R. R. Lally, C. E. Kennish, L. R. Phillips, A. N. Hobart.
Republic Mfg. Co., W. A. Ratcliffe, C. C. Stringer.
Ryan & Co., J. J., J. J. Ryan.
Street & Kent Mfg. Co., C. D. Street, W. J. Street, Wm. B. Dale.
Todd, C. C., C. C. Todd.
Weil Brothers, I. Weil.
Weir & Craig Mfg. Co., Jas. Weir.
Western Plumbing Supply Co., John J. Tyne.
Whitney & Ford, Chas. A. Ford.
S. Wilks Mfg. Co., Edwin W. Sedgwick.
L. Wolff Mfg. Co., Jno. F. Wolff, W. Utling.
CINCINNATI, OHIO.—Merkel Bros. Co., A. A. Merkel.
Williams Valve Co., The D. T., D. T. Williams.

COLUMBUS, OHIO.—Columbus Supply Co.
Scioto Valley Supply Co., L. C. Huesmann.
DAYTON, OHIO.—The Dayton Supply Co., The, J. F. Downer, Jos. J. Abel.
DENVER, COLO.—The Morse Bros. Mchy. & Supply Co., Geo. C. Morse.
M. J. O'Fallon Supply Co., M. J. O'Fallon.
DETROIT, MICH.—Detroit Brass Works, F. M. Minninger, C. P. Benjamin, F. L. Uhl, A. W. Fussey.



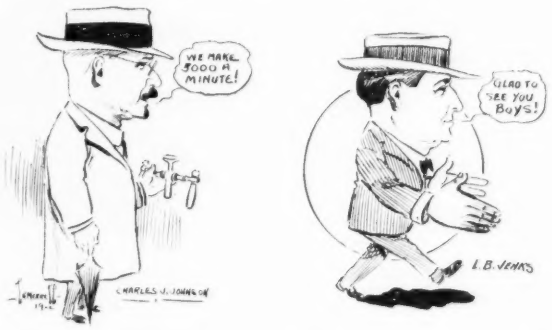
Detroit Lead Pipe & Sheet Lead Works, E. A. Morris.
Detroit Lubricator Co., H. I. Lord.
Detroit Range Boiler Co., E. W. Stoddard.
A. Harvey's Sons' Mfg. Co., Ltd., Jas. Harvey.
Ideal Mfg. Co., P. J. Feeley.
Michigan Plumbing Supply Co., Edw. I. Klein.
Murray W. Sales & Co., Murray W. Sales.
Teahen, Jas. M., Jas. M. Teahen.
United States Radiator Corporation, W. S. Hiller, J. A. Liggett.
Walker Mfg. & Supply Co., John Walker.
DUBUQUE, IOWA.—Kretschamer Mfg. Co., Fred N. Kretschamer.
McDonald Mfg. Co., A. Y., A. Y. McDonald, Robt. T. Johnson.



EVANSVILLE, IND.—Never-Split Seat Co., John L. Hopkins.
FORT WAYNE, IND.—P. & H. Supply Co., R. N. Puckett, C. J. Stier.
GRAND RAPIDS, MICH.—Ferguson Supply Co., Ltd.
Wolverine Brass Works, Walter H. Brooke.
GREEN BAY, WIS.—Murphy Supply Co., W. C. Noble.
HOLLAND, MICH.—Thompson Mfg. Co., C. E. Thompson.
INDIANAPOLIS, IND.—Central Supply Co., L. C. Huesmann.
Indiana Supply Co., Jim Gilchrist.
Shirley Radiator & Fdy. Co., Fred W. Smith.
KALAMAZOO, MICH.—Enameled Tank Co., Carl H. Zwermann.
KANSAS CITY, MO.—Southwest Plumbing Supply Co.
U. S. Water & Steam Supply Co., V. S. Ferguson.
W. B. Young Supply Co., Geo. H. Gorton.
KENOSHA, WIS.—Frost Mfg. Co., W. J. Frost.
KOKOMO, IND.—Central Closet Mfg. Co., Geo. A. Harper.
Great Western Pottery Co., A. V. Conradt, E. Willard, T. H. Campbell.
LINCOLN, NEB.—Cornell-Wigman-Searl Co., Lyman Searl.
LOUISVILLE, KY.—The Ahrens & Ott Mfg. Co., S. H. Moon.
MANSFIELD, OHIO.—The Barnes Mfg. Co., T. R. Barnes.
Hughes Supply Co., Geo. W. Hughes.
Ohio Brass Co., W. T. Jameson.
MILWAUKEE, WIS.—F. R. Dengel Mfg. Co., F. R. Dengel.
B. Hoffman Mfg. Co., Aug. Seelman.
Hoffman & Billings Mfg. Co., M. F. Niedecken.
Robert Rom Co., G. S. Waite.
Rundle-Spence Mfg. Co., H. R. Spence.
Wisconsin Plumbing & Heating Supply Co., Mr. Schruble.
MINNEAPOLIS, MINN.—Central Supply Co., P. J. Frey.
The D. M. Gilmore Co., J. R. Gilmore.
MUNCIE, IND.—Geo. Keiser & Co.
NEW ORLEANS, LA.—Manion & Co.

NEW YORK, N. Y.—American Sanitary Works, B. O. Tilden.
NOBLESVILLE, IND.—Union Sanitary Mfg. Co., E. V. Brigham.
OMAHA, NEB.—U. S. Supply Co., J. B. Raum.
PEORIA, ILL.—Kinsey & Mahler Co., Warren Kinsey.
PITTSBURGH, PA.—Bailey-Farrell Mfg. Co., Geo. H. Bailey.
Iron City Sanitary Mfg. Co., J. A. Kelly, C. F. Meyer.
Wm. B. Scaife & Sons Co., F. W. Peters.
Spang, Chalfant & Co., J. D. Purdy, Jr., J. D. Hardcastle, W. M. Thompson.
Standard Mfg. Co., C. A. Carothers, H. F. Meyer.
Standard Sanitary Mfg. Co., Theo. Ahrens, E. L. Dawes, Jno. A. Noone.
United States Sanitary Mfg. Co., A. H. Cline, Jr.
PORTSMOUTH, OHIO.—The Standard Supply Co., F. A. Ruhlman.
QUINCY, ILL.—Modern Iron Works, Geo. J. Fischer.
ROCKFORD, ILL.—Rockford Brass Works, F. D. Keeler, D. E. Trahern.
SALEM, OHIO.—National Sanitary Mfg. Co., I. C. Dimond.
SALT LAKE CITY, UTAH.—Joseph Nelson Supply Co.
ST. JOSEPH, MO.—Horigan Supply Co., J. J. Horigan.
ST. LOUIS, MO.—American Fdy. & Mfg. Co., Barney H. Sanders.
Monument Plumbing Supply Co., Wm. Ivy, J. D. McGuire.
N. O. Nelson Mfg. Co., A. B. Pierce, W. H. Baker.
L. M. Rumsey Mfg. Co., J. P. Hartnett.

ST. PAUL, MINN.—Cochran-Sargent Co., M. M. Cochran.
Crane & Ordway Co.
Union Brass & Metal Mfg. Co., P. J. Frey.
Western Supply Co.
SHEBOYGAN, WIS.—J. M. Kohler Sons Co., J. B. Murphy.
SIOUX FALLS, S. D.—Plumbing Supply Co., Chas. D. Symms.
STEUBENVILLE, OHIO.—LaBelle Iron Works, Hoyle Jones, W. E. Watson, Mr. Wickersham.
STURGIS, MICH.—Miller-Hubbard Mfg. Co., C. J. Hanson.
TOLEDO, OHIO.—American Plumbers' Supply Co., The, H. A. Schleigman, F. W. Terwilliger.
National Supply Co., Frank Collins, J. M. Stoddard.
UNION CITY, IND.—Knapp Supply Co., L. C. Huesmann.
WABASH, IND.—Honeywell Heating Specialty Co., J. C. Teague.
WAUKEGAN, ILL.—Northern Brass Mfg. Co., C. S. Johnson.
WHEELING, W. VA.—Wheeling Sanitary Mfg. Co., F. W. Wheelock.
Trimble & Lutz Supply Co.
Wheeling Steel & Iron Co., C. R. Elliott.



YOUNGSTOWN, OHIO.—Youngstown Sheet & Tube Co., L. B. Jenks, F. A. Lathrop, W. B. Blowers.

Among others in attendance were: A. A. Ainsworth, Chicago, Ill.; J. A. Campbell, president of the Trenton Potteries Co.; John D. Hibbard, Chicago; H. B. Hallett, Eastern Range Boiler & Welding Co., Conshohocken, Pa.; Jas. A. Riordon, Toronto, Canada; George D. McIlvaine, secretary, National Pipe & Supplies Association, Pittsburgh, Pa.; A. N. Van Doren, secretary, Mason City Supply Co., Mason City, Iowa; Charles Desormoux, manager trade catalog department, The New Werner Co., Akron, Ohio; Philip J. Faherty, secretary and treasurer of the Lambertville Pottery Co., Lambertville, N. J.

HAS COMPLETED LARGE ADDITION.

The National Sanitary Mfg. Co., of Salem, Ohio, has just completed an addition to their foundry, which gives them about 5,000 square feet of additional floor space.

WILL MANUFACTURE HEATING SPECIALTIES.

The Pulser Manufacturing Co., of Montgomery, Ala., has been incorporated with a capital of $50,000, to manufacture heating specialties. The officers of the company are: R. Hagger, president; D. R. Dreyfus, vice-president; secretary and general manager, C. F. Galliger; treasurer, J. A. Young.

THE ANNUAL MEETING OF NEW YORK CHAPTER OF THE AMERICAN SOCIETY OF HEATING AND VENTILATING ENGINEERS.

The annual meeting of the New York Chapter of the American Society of Heating and Ventilating Engineers was held in the Engineering Societies Building, 29 West 39th street, New York, on Tuesday evening, October 15th, with President W. M. Mackay in the chair.

After the roll call and the reading of the minutes of the previous meeting, the President made his report for the year in the nature of a few remarks mentioning the growth of the Chapter and the work accomplished, and thanking the officers and individual members of the Chapter for their support during the last year. The President also called the attention of the members to the death of two of the Society's members: Andrew Harvey, a past president, who died October 9, 1912, and H. A. Joslin, who died October 3, 1912.

Secretary Joseph Graham then read his report which showed the finances of the Chapter to be in a flourishing condition, and the total membership to be 70.

After the Treasurer had read his report the President appointed John F. Hale and P. A. Hoffman to audit the books of the Secretary and Treasurer. George O'Hanlon and C. E. Scott were appointed tellers of election.

President Mackay announced that, as a result of a mail vote of the members, the regular meeting night of the Chapter was changed from the second to the third Tuesday of the month.

The next order of the evening was the discussion of the topic on the "Relative Efficiency of Wrought Iron Pipe Coils and Cast Iron Pipe Surface for Indirect Heaters." Messrs. McCann, Chapman, Barwick and Ritter participated in the discussion.

The tellers of election announced the following elected as officers for the coming year as a result of the mail vote of the members: President, Frank G. McCann; vice-president, D. D. Kimball; secretary, Joseph Graham; treasurer, Arthur Ritter; board of governors, W. M. Mackay, Conway Kiewitz and W. W. Macon.

The committee on ventilation for motion picture show places made a report of progress, through its chairman, Frank T. Chapman. It was decided to refer to the committee the matter of enlarging its scope to cover besides ordinary motion picture show places, theatres where motion pictures are produced.

The matter of incorporating the Chapter was referred to the next meeting.

The following were present: Thomas Barwick, Frank T. Chapman, J. A. Donnelly, G. D. Farnham, W. F. Goodnow, Joseph Graham, P. A. Hoffman, John F. Hale, J. P. Lisk, A. A. Kiewitz, Conway Kiewitz, Fred R. Low, W. M. Mackay, W. W. Macon, F. G. McCann, George O'Hanlon, T. W. Reynolds, Arthur Ritter, George G. Schmidt, C. E. Scott, E. A. Scott, C. A. Slocum, T. Wilson.

DEATH OF ANDREW HARVEY.

Andrew Harvey, president and general manager of A. Harvey's Sons Manufacturing Co., Ltd., of Detroit, Mich., died at his home in that city on Wednesday, October 9th, after several months' illness. Mr. Harvey was born in Glasgow, Scotland, on March 26, 1843, and came to Detroit with his parents in 1853. After completing his education he served his apprenticeship in his father's foundry and was

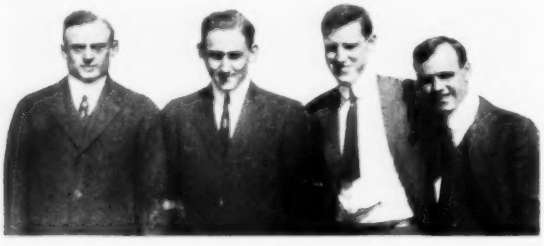
later taken into partnership in the business when it was conducted under the name of A. Harvey & Son. After the death of his father the business was incorporated under the name of A. Harvey's Sons Mfg. Co., Ltd., and he continued as its head until his death. Mr. Harvey was a member of the American Society of Heating and Ventilating Engineers and he served as its president from 1904 to 1905.

THE DEATH OF CHARLES W. FRANZHEIM.

Charles W. Franzheim, one of the most noted sanitary pottery manufacturers in the United States, died on the evening of October 22nd at his home in Wheeling, W. Va., after an illness which extended over three years. However, up until three days before his death, his ailment was not considered of a very serious character. Mr. Franzheim received his early education in the public schools of Wheeling, and later went to Bethany College at Bethany, W. Va., where he was a graduate. He obtained the degree of C. E. at that college. His work first took him into banking circles, and in 1877 he was appointed adjutant general of the West Virginia National Guard, which position he held until 1880. In 1899 he formed the Wheeling Potteries Co., and was president of that corporation for many years. He was also actively connected with the work of the United States Potters' Association for many years, and was its president from 1896 to 1900. He was also vice-president of the German Bank of Wheeling and of the Franklin Insurance Co., of that city. As a manufacturer of and distributor of sanitary pottery he was one of the best known men in that trade. His latest activity in a business way was the organization of the Colonial Supply Co., Wheeling, W. Va., which only recently placed on the market a line of sanitary ware of which Mr. Franzheim was the patentee. Of late years he gave much of his time to the invention of sanitary pottery lines, and was believed to have been in a way to make a fortune in this line of business. Mr. Franzheim was in his 60th year at the time of his death. He was always an ardent republican, and was a lifelong member of the Presbyterian church. He is survived by his wife and four children.

FOUR NEW MUELLER SALESMEN.

The H. Mueller Mfg. Co., of Decatur, Ill., is putting a number of new salesmen on the road. The accompanying illustration shows four young men, who have just finished



Four New Mueller Salesmen.

a course of instruction in Mueller goods and Mueller methods at the factory in Decatur, Ill., and are now, with one exception, "hitting the trail" in the interest of "unconditionally guaranteed" brass goods. C. J. G. Haas is still with the house. He is preparing to go to San Francisco, where he will be identified with the Mueller Pacific Coast branch. R. E. Smith is traveling out of Kansas City. S. Thornton out of Wichita, and E. G. Ince out of Minneapolis. The "sky picture" was taken on the roof of the company's warehouse building just before the quartette separated to begin their work on the road. Reading from left to right, the salesmen are C. J. G. Haas, R. E. Smith, E. G. Ince and S. Thornton.

CONSOLIDATED ENGINEERING CO'S. INDIANAPOLIS OFFICE.

The accompanying illustration shows one of the twenty or more branch offices of the Consolidated Engineering Co., of Chicago, through which the Van Auken system of vacuum heating is represened and sold. Reading from left to right the gentlemen are: W. F. Earnheart, assistant manager of Indianapolis branch; R. W. Hillman, manager, Indianapolis branch; Harry Callon, a

Consolidated Engineering Co.'s Indianapolis Office.

prominent heating contractor of Indianapolis. From this branch the state of Indiana and the southeastern part of Ohio is covered. In addition to the Van Auken system, the Thermo control system of heating and Van Auken steam heating specialties are extensively sold. Mr. Hillman came to the Consolidated Engineering Co. about a year ago, since which time he has won an enviable reputation as a business getter in the heating lines. Mr. Earnheart, originally from Pittsburg, is a heating engineer of broad experience, having in addition to his eastern experience, spent considerable time in the engineering department of the Chicago office of this concern, where hundreds of installations came under his observation.

GOVERNMENT CONTRACTS TO BE AWARDED.

Supervising Architect Oscar Wenderoth, Treasury Department, Washington, D. C., will receive sealed proposals as follows:

Until 3 p. m., on December 13, 1912, for the construction, complete (including plumbing, gas piping, heating apparatus, electric conduits and wiring, interior lighting fixtures and approaches), of the United States postoffice at Cullman, Ala. The building is of two stories and basement, and has a ground area of approximately 3,800 square feet, fireproof construction, stone and brick facing and tin roof.

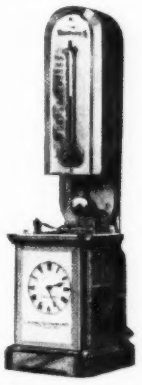
Until 3 p. m., on December 17, 1912, for the construction, complete (including plumbing, gas piping, heating apparatus, electric conduits and wiring, interior lighting fixtures and approaches), of the United States postoffice at Fort Madison, Iowa. The building is one story and basement, and has a ground area of approximately 4,500

square feet, fireproof construction, stone facing and tin roof.

All proposals should be in accordance with drawings and specifications, copies of which may be obtained from the custodian of the above sites, or from the supervising architect at Washington, D. C.

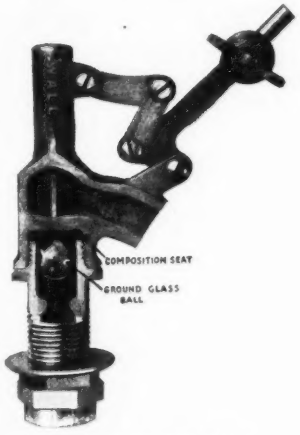
NEW MODEL NO. 60 TIME ATTACHMENT.

Something new in the way of a time attachmemnt for a temperature regulator is being introduced to the trade by the Minneapolis Heat Regulator Co., of Minneapolis, Minn. It is the new model No. 60, eight-day clock time attachment, which is reproduced in this column. This clock has a solid brass frame, beveled glass sides and top and porcelain dial. Has hour and half-hour strike and repeat. Time and alarm both run eight days with one winding. The clock appeals to the housewife not only because it is an ornament, but it can be easily removed and used about the house during the day time. The manufacturers state that they are already meeting with very satisfactory sales on this new device. Interesting literature will be mailed to any one upon application to the Minneapolis Heat Regulator Co.



THE "WALL" BALL COCK.

The Noiseless Float Valve Mfg. Co., 1501-1521 Columbus road, Cleveland, Ohio, is placing on the market the "Wall" ball cock, shown in the accompanying illustration. This ball cock contains a round solid glass ball, which works with the pressure and makes a seat against a flat



The "Wall" Ball Cock.

rubber washer. It can be used under any water pressure. When the tank is flushed and the water begins to leave, the ball cock is opened by a glass plunger pushing the glass ball off the seat, where it is held until the tank fills with water to the proper height and causes the float to lift the brass plug and allow the water pressure to force the ball into place against the seat. The manufacturers claim that the "Wall" ball cock is quiet in action, rapid filling, simple and durable. Any of our readers who are interested can obtain full information regarding this ball cock by addressing the above named company.

THE METAL MARKET

STILL HIGHER PRICES FOR PIG IRON.

Virginia furnaces advanced prices 75 cents per ton early this week for foundry iron. The quotation of $17.75 for No. 2X Northern Foundry which was established is now the minimum in New York for business of both this quarter and next year's delivery. The leading furnace company in Virginia which made this move for higher prices has a fair accumulation of iron that it has been carrying for several years, and this move is believed to indicate a disposition on its part to dispose of some of this stock. Sales were also made early in the week by Buffalo furnaces at a slightly higher range of quotation. It is true that the demand for iron is not as active in the east as in the Pittsburg and Chicago districts, but this shows that the influence of the high price and scarcity of iron in other centers is having a potent effect on these markets. The activity of steel-making irons is much greater, in a relative sense, than foundry grades and the demand for finished steel products grows steadily. Open hearth billets to the amount of 40,000 tons have been sold by makers in the east for shipment to the Pittsburg district. In fabricated material the activity is only moderate, especially in and around New York, but figures are being made on some large bridge contracts for the railroads next year. Prices of iron are as follows:

No. 2X Northern Foundry, New York	$17.75 to $18.25
No. 2 Plain Northern Foundry, New York	17.25 to 17.75
No. 2 Southern Foundry, Birmingham	13.50 to 14.00

COPPER LESS ACTIVE.

The war in the East has had a depressing effect on the European copper market. This is nothing unusual for a war scare always frightens speculators, and copper in Europe is a highly speculative article. Manufacturers using copper in the United States are not very actively engaged in buying copper and prevailing quotations are largely nominal at 17.50 cents for Electrolytic.

LEAD.

The market is steady and higher at 5.20 to 5.25 cents per pound, New York.

OLD METALS.

Dealers' buying prices in New York are:

Light copper	$13.75	to	$14.12½
Strictly crucible copper	15.62½	to	16.00
Uncrucibled heavy copper	15.25	to	15.50
Uncrucibled copper wire	15.25	to	15.50
No. 1 machine composition	12.87½	to	13.12½
No. 1 brass turnings	9.12½	to	9.25
New Brass clippings	11.50	to	11.75
No. 1 composition turnings	12.00	to	12.25
Cocks and faucets	10.75	to	11.00
Light brass	7.75	to	8.00
Heavy lead	4.40	to	4.50
Tea lead	4.05	to	4.25
Scrap zinc	5.40	to	5.50
No. 1 pewter	33.00	to	34.00
No. 2 pewter	9.50	to	11.00
Close cut solder joints	9.50	to	9.75

Among the Plumbing and Heating Contractors

NEWS FROM NEW ENGLAND.

Massachusetts.

Dalton.—G. R. Messenger has the contract for installing a new boiler in the town hall building. The work of installing the new steam heating plant in the Methodist church has been completed by Robbins, Gamwell Co., of Pittsfield.

Bolton.—William Lee, of Clinton, has just installed a new ventilating system in the Houghton high school in this village.

Saugus.—George W. Caswell is erecting a large addition to his plumbing establishment in Cliftondale in order to better care for his increasing patronage.

Templeton.—The Royal Steam Heater Co. has the contract for installing a heating plant in the Cutting house, owned by James Fletcher.

Amherst.—The plumbing contract for the new Phi Delta Theta Fraternity House has been awarded to the Mutual Plumbing & Heating Co., and the heating contract to Charles Dance & Sons.

Rhode Island.

Pascoag.—J. H. Smith has been awarded the contract for installing heating apparatus in the South Main street school building.

Maine.

Portland.—The committee on public buildings has received bids for heating, ventilating and plumbing for the addition to the Deering high school as follows: Heating and ventilating—W. W. Carman, $7,279.93; with Johnson thermostats $800 extra. Wiley & Calhoun, $7,566; with thermostats $750 extra. A. H. Moulton, $7,995; with thermostats $800 extra. A. B. Fels, $7,575 with thermostats $800 extra. Plumbing—Myers & Mahoney, $4,298; Wiley & Calhoun, $4,084; F. E. Wheeler, $4,685; M. C. Hutchinson, $4,400; Myles F. O'Sullivan, $3,900; A. L. Dow Co., $3,939. The contract for plumbing was awarded to Myles F. O'Sullivan and for heating and ventilating to W. W. Carman.

Brewer.—John Lord is planning to open a plumbing establishment in this city. Mr. Lord was in the employ of S. H. Woodbury for a number of years and has had considerable experience in the business.

Connecticut.

Meriden.—The Taylor-Flagg Co. has just been awarded an additional contract for heating the superintendent's house at the new Cheshire reformatory. This company also has the contract for installing a boiler in the school house at East Hampton and have two contracts for heating systems in Durham. Among the residences in which the company has recently placed heaters are four at Bradley park, two for Peter B. and Robert S. Bradley, one for C. R. Gardiner and one for George Ohl.

New Britain.—J. O. Mills & Co. have the contract for the plumbing in connection with the extensive alterations being made at the city hall. M. J. Daly & Son, Inc., of Waterbury, has been awarded the contract for plumbing the new theater block being erected on West Main street by Faber & Edelson.

Willimantic.—The selectmen have placed a contract for installing a new heating plant in the almshouse, with Moriarty & Rafferty.

Hartford.—The board of aldermen has under consideration the adoption of an ordinance regulating the licensing of master plumbers of the city. The proposed ordinance requires all plumbers to obtain certificates before December 1, 1912, and to display the same prominently in their place of business. Licenses will be issued only after examination by the board of health, if the ordinance becomes a law.

Hartford.—Edward Mahl has the contract for the plumbing in connection with the new factory building to be erected for the Gray Telephone Pay Station Company.

South Norwalk.—The contract for the plumbing of the new building on Lexington avenue, South Norwalk, for John Budovsky, has been placed with Thomas Donaldson.

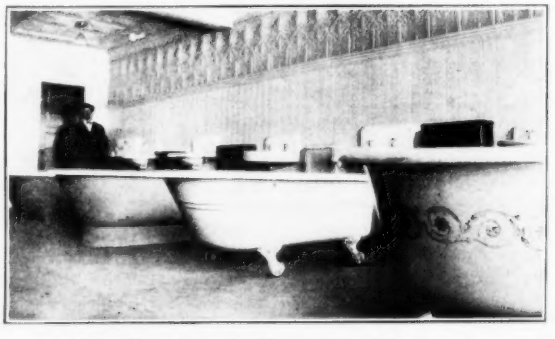
Bridgeport.—John J. Scanlon has the contract for the plumbing of Nathan Nussenbaum's new business building on Main street. He also has the contract for plumbing and heating a two-family house on Grand street for Margaret F. Doyle. Joseph Mongrain will do the plumbing work in connection with changes to be made to a house at the corner of State Street and Colorado Avenue for Vincent Bros.

Willimantic.—Hollis H. Lyman, who has been engaged in the plumbing and heating business for many years, is erecting a very handsome home here, and it will be complete and modern in every way. He is still in business. The following list of contracts will testify: Plumbing and heating in the State Armory here, plumbing and heating in the Booth-Dimock Memorial library, at South Carpenter, Conn.; steam heating in a mill for the Max Pollack Co., and the plumbing in four new residences.—Welsh & McCarthy have just secured the plumbing and heating work for two new residences here.

A FIRM OF PROGRESSIVE PLUMBERS.

The accompanying photographs show an interior and exterior view of the up-to-date plumbing establishment of Maurer Bros., located at 3714 Lorain Avenue, Cleveland, O. Their show room is very neat and well arranged and they carry on display a complete line of modern plumbing fixtures. This concern reports an unusually busy season and have on their books at the present time many large new contracts, among which are the following: Plumbing for the Cleveland Electric Ry. Co.; plumbing and sewering for the Mayer Realty Co.; plumbing and heating in the Lemperley residence, and much other important work.

Maurer Bros.' Plumbing Establishment



Attractive Corner in Maurer Bros.' Showroom.

NEWS FROM CLEVELAND, OHIO.

W. W. Nixon has resigned his position as sanitary engineer for the board of education. He has held this position for twelve years. There will be no appointment made to fill his place for the present.

The Smith-Oby Co. is now settled in a new location on Bolivar Road. Colonel Smith has been identified with the plumbing and heating business for sixty-five years.

A. Lehman, for many years in the plumbing business, is now superintending the plumbing work in the Hollenden hotel. The work is being done by C. H. Warner and the Brainard Plumbing Co.

The plumbing work in the Morse club is being done by Frank Poplowsky.

The Brainard Plumbing Co. has the contract for the hot water heating in the residence of W. H. Sterring, Willoughby, Ohio; also for the Peerless Motor Car Co., of this city.

The Foplowsky Plumbing Co. has secured the plumbing contract for the Miles theater, being built on Huron road; also for the following schools: Miles, Mount Pleasant, Euclid high school and Shore school, Euclid, Ohio; also contract to install the sewage testing plant for the city.

Frank Hildebrand, 9401 Cedar avenue, has the plumbing contract for the apartment house for W. P. Carter, of Superior avenue.

Chappell & Warren Co. have secured the contract to install a steam heating plant in the new factory being built for S. Korach & Co., 1219 West Ninth street.

G. S. Papworth & Son have the plumbing contract for the garage for W. H. Marlett, Shaker Heights.

There has been a scarcity of plumbing material in this city for the past few months, especially soil pipe, earthenware and genuine wrought iron pipe.

H. A. Nagel has secured the hot water heating contract for the six-suite bungalow for J. H. Libby, located on Detroit avenue, Lakewood, Ohio. The plumbing contract has been let to Frank Hildebrand.

NEWS FROM PITTSBURGH AND VICINITY.

The Pittsburgh Association of Master Plumbers at its regular meeting, held the evening of October 15, had as its guest Robert Henderson, who gave one of the most interesting addresses the members ever heard. It was on "Trade Protection," and as the subject is an exhaustive one, many phases of it were brought out at this meeting. The association, at this meeting, admitted one new firm to membership, and received applications from several others, these to be acted upon at the next session. Inasmuch as the state association will convene in this city next season, the association will give a banquet early in the new year, when plans for entertaining the delegates to the gathering will be given final consideration.

With a capital stock of $10,000, the Sanitary Plumbing and Heating Company of Pittsburgh, has just received its charter. The incorporators are G. Y. Hollister, N. H. Hollister and H. and John Sneiderwein, all of Erie, Pa.

With a capital stock of $5,000, the Allegheny County Steam Heating Company has been formed. Those back of the company are Alex W. Stevenson, with the Pittsburgh Railways Company, Sixth avenue, Pittsburgh; W. B. Carson, R. S. Orr, S. L. Tone and J. W. Murray. Mr. Murray has been elected treasurer of the new company.

Bids for the heating system to be installed in the new Y. M. C. A. at Greensburg, Pa., have been received, and the contract will be awarded within a few weeks. The bids for the low pressure steam heating system that will be installed in a similar building at Titusville, Pa., have also been received, and this contract will be let very soon.

The steam heating contract, in addition to the plumbing for the new addition being built at the hospital of the Sisters of St. Joseph at Wheeling, has not as yet been placed.

One of the largest heating contracts awarded in this district during the last six weeks was that secured by the G. F. Higgins Company. This work includes the installation of the hot water heating system in fourteen appartments now under construction for Montrell Davis.

Among the plumbing and heating contracts awarded in this district during the last fortnight are to be found the following: Reliance Coke Company, of Pittsburgh, operating in the vicinity of Brownsville, Pa., have awarded the plumbing and heating work in their new $80,000 store building and club house and residence at Brownsville to the J. I. Dick Company, of Scottdale, Pa.; Moss & Blakely, of this city, will do the plumbing in the $7,000 double residence now being erected for J. E. McDowal.

Plumbing and heating contracts have been awarded by the congregation of the Fourth Lutheran Church at Jamaica, Pa., to Elway & Chamberlain Company, of Altoona, Pa. The work is now in progress.

Heating contracts have been secured by the McGinness-Smith Company, of this city, for the new $10,000 library now being built at Kinsman, Ohio, which is near Cleveland. The building is one of the Carnegie string.

The German Protestant Church at Sharpsburg, Pa., has given the plumbing work in its new building to John Nieberd, of Sharpsburg.

Plumbing in the new $7,000 residence being erected at Altoona, Pa., by Solomon Dembert, has been awarded to H. C. Pierce, of Altoona. The Standard Supply and Equipment Company, of Altoona, will do the heating work.

The Historical Society of Western Pennsylvania has awarded the heating work in its new $25,000 building, being erected in Pittsburgh, to F. E. Geisler, of this city. The Stinson-Kennedy Company has secured the plumbing.

Charles LaClair, of Uniontown, will do the plumbing in the $3,500 residence of Walter Springer, now being built at Uniontown, Pa. Miller & Co. will do the heating work.

J. L. Stewart is erecting a $4,000 residence at Washington, Pa., and has given the plumbing to John E. Early, of that place, while the heating contract has been awarded to C. S. Stough, of Washington.

The Pennsylvania Railroad Company, which is erecting a $15,000 station at Tarentum, Pa., has given the heating to the Reliance Heating Company, of this city.

Pfeiffer & Burns, of Arnold, Pa., will do both heating and plumbing work in the $3,000 bungalow being built by H. O. Walley at New Kensington, Pa. The same firm has been awarded the heating work in the $5,000 store building put up at Arnold by P. D. Dattalo.

The Iron City Heating Company has secured the heating work in the new $70,000 residence now being built in Pittsburgh by H. H. McLaughlin. The plumbing work in this improvement has been secured by John M. Tate.

Plumbing contracts have been awarded to Deer & Ober by Charles E. Eckert for his new $35,000 residence, which is being built in this city.

NOTABLE CONTRACTS OF THE GEORGE H. SOFFEL CO., PITTSBURGH.

Besides the plumbing contract of the Statler hotel, Cleveland, mentioned elsewhere in this issue, the George H. Soffel Co. are now working on the new fifteen-story building of the Cleveland Leader, at Superior and Sixth street, East Cleveland. The installation calls for 964 lavatories, 217 water closets, 34 slop sinks, 54 urinals and 55,000 feet of piping. Four sewers enter the building, and require an ejector system. Two 5,000-gallon tanks are used on the roof. The job is practically all roughed in. The entire consideration is $85,000. Their contract for the Quinby office building, at Fifty-fifth street and Euclid avenue, calls for 74 lavatories, 21 water closets, 5 slop sinks, 11 urinals and 10,000 feet of piping. The entire job will be completed in the next two weeks. Consideration $10,000.

At Detroit they have the contract for the new twenty-three-story Dime Savings Bank building. This contract amounts to $66,000.

The men's gymnasium for the University of Michigan at Ann Arbor is also one of their contracts. This has just been started, and besides the usual fixtures and drinking fountains, includes a swimming pool, 25 x 75 feet. The consideration is $16,000.

The other contracts on which work has not yet been

commenced are for two residences at Shaker Heights, near Cleveland, amounting to about $7,000.

Mr. A. J. Slonaker has general charge of the outside work for the George H. Soffel Co. He has been a master plumber for seventeen years and for the past nine years has been with his present employers. He is a master of recognized ability. Most of the work just mentioned is under his charge, as was also the Statler hotel contract.

NEWS FROM PHILADELPHIA AND VICINITY.

Frank Kramer, 959 N. 11th Street, Philadelphia, is installing plumbing in the properties at 1432-34 N. Front Street, 905 N. 77th Street, 931 Poplar Street, 921 Sartain Street and 821 N. 11th Street.

J. A. Quinn, 1613 Unity Street, Frankford, has been awarded the heating and plumbing contract in the 18 new houses for James Orr, on Torresdale and Princeton Avenues, Olney, Pa. He is also installing the heating system in the new synagogue at 4332 Paul Street.

Ronald A. Needham, Church and Franklin Streets, Frankford, has been awarded the contract for the plumbing and heating in six houses in Frankford.

Geo. F. Uber & Co., 13th and Fairmount Avenue, Philadelphia, is making extensive alterations in the plumbing in the Penn National Bldg., 7th and Market Streets, Philadelphia.

Wm. H. McClain, 5922 Girard Avenue, Philadelphia, has been awarded the contract for plumbing in the 19 new houses on 54th Street for John McGraw estate.

John J. Hahn, Percy and Erie Avenues, Philadelphia, is making extensive alterations to his own building and as soon as completed will occupy it as a plumbing establishment.

H. Lutz & Co., N. 16th Street, Philadelphia, has been awarded the heating contract at 2256 N. Broad Street for J. Freeman, cost $850; and at 333 Market Street, cost $1,600.

Walters, Perks & Mellon, 1835 Ludlow Street, Philadelphia, have the plumbing and heating contract in the Martha Washington School and the Mount Vernon School, Philadelphia.

John R. Drexel, 259 Pear Street, Reading, Pa., has just moved into his own building at the above address where he has fitted out an elaborate show room. Mr. Drexel reports business very good.

W. A. Heckman, 16 N. 8th Street, Reading, Pa., has been awarded the plumbing contract for 10 new houses that are being erected on Penn. Street near the Penn. R. R. depot.

Paul Lewis, 749 Pear Street, Reading, Pa., reports a large amount of heating and plumbing work for the fall. He has just finished the plumbing work on a large apartment house.

M. D. Gould Co., Moore, Pa., is making alterations in the plumbing at the Baldwin Locomotive Shops, Eddystone, Pa.

SOUTHERN NOTES.

Raleigh, N. C.—Farmer Cole Plumbing Co., of Raleigh, N. C., are enjoying a very busy year. At the present time they have under way the remodeling of the old Raleigh hotel, which is being changed into an up-to-date apartment house, the amount of this contract being $2,000. They also have contract for plumbing in the new Briggs hotel at Wilson, N. C., contract $2,000; contract for changes in the Academy of Music, Raleigh, $2,000; plumbing in the Bland hotel, Raleigh, $9,000.—Bids are now being taken for the plumbing and heating in the new Citizens' National Bank building, and the postoffice building.—Pemberton & Benson, of Richmond, Va., are installing the plumbing in the new Commercial National Bank building.

Asheville, N. C.—Bids are being taken for extensive alterations in the plumbing of Battery Park hotel. About $65,000 to be spent in changes to the building and additional plumbing, each room to be equipped with modern bath.

Knoxville, Tenn.—W. F. Rourke is just completing the plumbing and heating in the Holston National Bank building; amount of this contract $35,000.

Durham, N. C.—State President A. S. Tompkins and ex-President L. L. Hackney, of Charlotte, N. C., were guests of the Durham local association Tuesday evening, October 15. The visit was in the interest of the state association work. An effort is being made to strengthen the state association so that they can bring about legislation in regard to plumbing and pass a state code. After the meeting, which was attended by all plumbers in this city, light refreshments were served.

NEWS FROM BALTIMORE, MD.

Charging that property owners are tardy in complying with instructions from the Health Department to connect with the new sewerage system and declaring that plumbers have grown tired of going to the trouble and expense of sending out experts to prepare estimates of the cost of the work without getting orders, John Trainor has appeared before the mayor, and the department heads and asked that the city compel people to obey orders from the Commissioner of Health. Mr. Trainor says the delay in making the connections is not the fault of the plumbers, and that there are enough of them in Baltimore to do all the work and do it promptly.

The Mayor announces that no further delays will be allowed householders to whom notice has been given to connect their houses with the new sewer system, and he proposes to have the City Engineer's department make the necessary connections where the householders refuse or fail to make them themselves and then charge the cost against the delinquents. Under the system in effect each householder is allowed 30 days within which to connect his house after notification. In the instructions given by the Mayor to the City Engineer that official is told to proceed at once to connect up all of the houses whose owners have allowed the 30-day time limit to expire. The Board of Estimates has set apart $100,000 to finance house connections for poor (?) people, but so far little of the fund has been asked for.

Under the instructions from the Mayor, Health Commissioner Bosley began advertising in Boston, New York and Philadelphia, October 21, for journeymen plumbers to hurry house connections with the new sewers. Though it is understood that the leading master plumbers state that there is no necessity of calling in outsiders, and have made no promises to take men on, yet the Health Commissioner states that all journeymen answering the ads will be offered the Baltimore wage of $3.50 a day, and are promised all they can do. The men are directed to apply to Chief Plumbing Inspector Potts of the Health Department. As the applications are received, Mr. Potts will notify master plumbers that the Health Department is in a position to furnish them with journeymen. Outside journeymen may take this offer for just what it's worth. They may get work and they may not. It should be distinctly understood that this offer does not come from a bona fide employer.

Estimates made by the leading plumbers of Baltimore indicate that it will cost the property owners of Baltimore, in the aggregate, between $9,000,000 and $11,000,000 to connect their homes with the new sewerage system. This does not mean that the connections with the new system are to cost that much. It means that the property owners, who were bamboozled before election with estimates of cost are incurring expenses in connection with the work which will cost that sum. This expense will have nothing to do, either, with the sewer rental proposition to be voted on next month. However the people have been betrayed to the "Sewer System" and the property holder must settle the bills no matter what they are. In the absence of any material rise in the prices for plumbers' supplies during the last year the recent increase in rates charged householders for connections is laid, first, upon the Health Department rules, and, secondly, upon the presence in the work of a large number of irresponsible plumbers, who are making their customers, especially among the poorer people, pay for losses sustained when the work was first undertaken. Since the before-election promises were made, the Health Department has raised its requirements for the kind of closet required for the back yard, from a simple type to one costing six times as much, and the Department has been enforcing more stringently certain restrictions regarding the proper ventilation of interior fixtures, which greatly increase the cost of installation upon the individual house owner. Then, too, many property own-

ers are having their work done by irresponsible plumbers, and are being charged for losses made by those men while they were getting their eye teeth cut. Many of the plumbers are doing the work on the installment basis, and are charging a good rate of interest.

John Trainor states that while there has been no appreciable increase in the cost of materials, there has been a decided increase in the cost of labor. "Journeymen plumbers," he says, "are getting twice as much as they did a few years ago, and common labor is higher and scarce. While it is true that the aggregate cost upon the property owners, due to the necessity of making connections with the new sewerage system, may reach $11,000,000, much of this cost is taken up in the cost of fixtures. Actually, all the law requires of the property owner is that he shall have one closet in the yard and a kitchen sink, and the law only requires him to install such fixtures, if he has none already, and to run a drain from the city system to such fixtures. When the connection is to be made in the rear of the house and the property owner already has a flush closet, the work may be done as cheaply as $15, and where the connection is to be made at the front of the house, as cheap as $50. But where there are many fixtures to be re-modelled—and under the law they must be modernized if connected with the system or else taken out—the cost may be run up into the hundreds of dollars. Since the master plumbers succeeded in getting the Legislature to amend the law so as to require the Sewerage Commission to provide rear connections wherever possible, only 30 per cent of the system now calls for connections in front of the houses."

Journeymen plumbers in Washington, who get $4 a day, laugh at the idea of Baltimore's Mayor, that they will go to that city for $3.50 to connect up houses with the new sewerage system. Demands have been made by the Washington journeymen for an increase of 50 cents a day, to take effect January 1. An increase of 25 cents will probably be allowed on January 1, with another 25-cent jump on April 1. Washington master plumbers find it hard to believe that any Washingtonian would go to Baltimore for less than $5 a day, and the same report comes from Norfolk, Va. and Philadelphia.

NEWS FROM ST. PAUL, MINN.

J. E. Holt Plumbing Co., 171 East Sixth street, was awarded the plumbing contract in A. I. Shapiro's residence on Summit avenue. They have commenced work on the plumbing and heating in the new exchange building for the Northwestern Telephone Co., at Mendota and Beech streets, and also in the courthouse at Cavalier, North Dakota.

F. J. Spriggs, 43 West Fourth street, is installing the boilers and plumbing in the power plant for the new Griggs Cooper Factory at Midway. He reports plumbing and heating work about completed in the Hackney Mfg. Co.'s factory at University and Prior avenues.

The Capitol Plumbing & Heating Co. have started work on the plumbing in the new University Club at Summit and Ramsey streets. They are also busy installing the plumbing and heating in the Kramer flats, which are being remodeled, at Smith avenue and West Sixth street.

Contracts were let for the completion of the new West St. Paul Bank Building. C. F. Hochmuth, 135 Concord street, was awarded the contract for plumbing, and F. T. Connolly, 413 South Robert street, was the successful bidder on the hot water heating, with 1,100 feet of radiation.

The plumbing figures were all rejected by Hartford & Jacobson, architects, on the Sarah Young residence, the figures all being higher than the architects' estimate.

J. W. Martin, 600 Lawson street, has just finished plumbing work in several small houses for the C. P. Abbott Realty Co. A. F. Wilson, 567 Bellows street, was the low bidder on the plumbing and heating for the Sperry Realty Co.'s four-flat building at 1067 Goodrich avenue.

The German Reform Church let all the contracts for their new church building at Reaney and Forest streets. F. A. Brodt, 760 Arcade streets, was low on the plumbing work, and L. S. Breher, 187 West Third street, was low on the hot air heating.

George A. Kees Domestic Engineering Co. was awarded the plumbing in the State Hospital Farm for Inebriates at Willmar, Minn.

E. L. Ormsby, Black River Falls, Wis., purchased the plumbing and heating supplies in St. Paul to be installed in the First National Bank Building at Black River Falls.

C. F. Dahlby, 736 Geranium street, is installing twelve bathrooms for C. A. Anderson, and has just completed the plumbing and heating in the Retzinger residence.

H. P. Steimer, 387 Warsaw street, was awarded the plumbing contract in the remodeled German Lutheran Church at Sherburne avenue and Dale streets.

NEWS FROM THE PACIFIC COAST.

San Francisco.

While those jobbers of steel pipe and iron pipe in this city who have direct connections with the manufacturers in the East have ample supplies of pipe on hand, the average jobber is rather short of stock. It is even feared by some that between now and the end of the year the condition may become serious, as deliveries from the mills are getting slower. The effort on the part of several local concerns to make contracts with the mills for steel pipe to be delivered during the first quarter of next year has proved unavailing. The mills are not able to promise prompt deliveries. With the continued activity of the building trades in this city a great deal of pipe will be needed right along, and in spite of the advancing prices, the movement will remain active. Moreover there is a tendency for construction concerns to carry more stock than has been the custom for the past year or so. Contractors have come to appreciate that the possibility of prices lowering is very slight and so are not so much inclined to buy for one job at a time on staple products. International Exposition has advertised for bids for the preliminary work for the machinery hall, the first building, after the general service building, to be built. Bids have already been received for sewer work in the concession district of the fair and bids have just been advertised for in connection with the sanitation requirements of the foreign pavilion district. Within two weeks it is expected that two hundred teams or thereabouts will be working on the harbor view site. The latest foreign nation to signify her intention to have a building at the fair is China. This makes nineteen foreign nations that have thus far promised to participate, and most of the principal European powers are yet to be heard from definitely.

The P. F. Howard Co., plumbing supply jobbers at Folsom and Second streets, have just completed some alterations in their establishment. The office partitions have been removed on the main floor and the space formerly occupied by the offices has been given over to the display department. The display and salesroom is now considerably enlarged and improved. The offices have been removed to the mezzanine floor where suitable accommodations have been fitted up.

The Haines, Jones & Cadbury Co., 851 Folsom St., reports a general improvement in its Coast business in the past eight months, especially in the pipe department.

Mr. Palmer, representing the Frost Manufacturing Co., of Kenosha, Wis., has just been calling on the local trade.

W. H. Finch, Pacific Coast manager for the J. M. Kohler Sons Co., of Sheboygan, Wis., is in Los Angeles this week.

The Western Heat Regulation Co., with offices in the Monadnock Building, which was a partnership concern, has been reorganized and the partnership dissolved. The business will be conducted along the usual lines at the same offices by L. F. Halloran, one of the partners, who is now the sole owner. F. H. Bryant, the retiring partner, has accepted a position with the Machinery & Electric Co., of Los Angeles, as manager of its heating and ventilating department. Mr. Bryant is a heating and ventilating engineer and a salesman of many years' experience who first came to the Coast eleven years ago in the interests of the B. F. Sturtevant Co. During the past decade he has been in charge of some of the largest contracts in his line in this territory.

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YOUNG MAN 20 YEARS OF AGE wishes position with Consulting Engineer or Boiler Manufacturers. Four years experience designing heating apparatus and estimating. Location not particular. Address Box 878, "Domestic Engineering," 445 Plymouth Court, Chicago, Ill. 10-26

Government Proposals.

TREASURY DEPARTMENT, OFFICE of the Supervising Architect, Washington, D. C., October 10, 1912. Sealed Proposals will be received at this office until 3 o'clock p. m. on the 1st day of November, 1912, and then opened, for an electric passenger elevator in the United States post office and courthouse, San Diego, Cal., in accordance with drawing and specification, copies of which may be had at this office at the discretion of the Supervising Architect. Oscar Wenderoth, Supervising Architect.

For Sale

FOR SALE—PLUMBING AND HEATING business in live town of Fulton, N. Y., twelve thousand population. Sewerage system just completed. Business established fourteen years. Other business motive for selling. Address M. F. Crahan & Sons, Fulton, N. Y tf

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SELL YOUR SURPLUS COUPLINGS and fittings. Write us. The A. & J. Mfg. Co., 557 W. Lake St., Chicago. tf.

MANUFACTURER'S OUTLET SALESman wants line of enameled ware, brass goods, earthenware, tanks and seats to sell direct to plumbers in Chicago. Address Box 877, Domestic Engineering Co., Chicago, Ill. 19-26

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